



Workshop on

„INCREASE OF ENERGY EFFICIENCY AND USE OF ENERGY SOURCES AT LOCAL LEVEL”

4-5 April, Sigulda, LATVIA

REPORT

Opening and introduction

by Ingrīda Brēmere, BEF- Latvia

Ms. Brēmere welcomed the participants. She emphasized that energy efficiency and use of energy sources are important aspects for urban environment. Local municipalities are among the key stakeholders implementing the provisions indicated in national policies and legislation. For example, municipalities need to elaborate local energy concepts and take into account promotion of energy performance at buildings as well as use of various energy sources and alternative fuels. Here economic, environmental and social aspects have to be considered. Therefore this workshop should serve as a fruitful information and experience exchange forum for municipalities, enterprises and state institutions in order to reach a common understanding among various stakeholders involved.

Further Ms. Brēmere introduced to the main discussion topics of the event, speakers and the agenda. She also pointed out that organization of the workshop is supported by the EU, Phare 2003 “Cross Border Co-operation Programme in the Baltic Sea Region”, German Ministry of Environment, Nature Protection, and Nuclear Safety and German Federal Environmental Agency.

SESSION I. HOLISTIC OVERVIEW ON EU ENERGY POLICY

by Wendelin Friedel, City of Frankfurt (Main), Germany

Mr. Friedel described various reasons (e.g., improvement of European energy market conditions, environmental targets) being used for making energy decisions and guidelines at the EU level. While in early 90's different energy related action programmes (e.g., SAVE, ALTENER) for non technological methodologies were prepared, currently all aspects are integrated into the “Intelligent Energy Programme” (*more information available at www.managenergy.org*). Mr. Friedel informed that several directives and policy documents have been elaborated and adopted. He gave a brief overview on the main ones:

- 1) harmonization and liberalization of energy markets, (1996/92/EC; 2003/54/EC – electricity, 1998/30/EC; 2003/55/EC – gas) setting free choice of supplier, rules for free trading of energy, separation of production and transport and rules for regulation of energy markets;
- 2) promotion of use of renewable energy sources (RES) in generation of electricity (2001/77/EC), heat and cooling (proposed to the EC on February 2006);
- 3) energy performance of buildings (2002/91/EC) – applies to residential and non-residential buildings, requires energy certification, inspections of boilers, etc.;
- 4) promotion of use of biofuels or other alternative fuels in the transport sector (2003/30/EC);
- 5) support of combined heat and power (2004/8/EC) – sets only general promotion;
- 6) requirements for “eco-design” of energy using products (2005/32/EC) - refers from heating boilers to computers. If implemented appropriately it will give high reduction of electricity demand (stand-by losses etc.);

- 7) draft directive on energy savings on the demand side management. Envisages implementation of different instruments – obligations to energy suppliers to promote energy efficiency („white certificates“) or by „energy saving funds“.

Mr. Friedel also informed that a new Green Paper on “European Strategy for Sustainable, Competitive and Secure Energy” has been adopted in March 2006. It sets 3 main targets: competitiveness, environmental aspects, security of supply.

Concluding Mr. Friedel emphasized that at the time of foundation of the EU, targets were set towards use of coal, steel and nuclear power. In nowadays due to new threats and challenges related to climate change, high energy prices, security of supply, the main focus is put towards increase of energy efficiency, development of combined heat and power as well as increase use of RES. However, still there are many open questions e.g.:

- What shall be the balance of market and environment aspects?
- How to elaborate clear guidelines and to ensure quick and appropriate implementation by Member States?

Discussions

- Although energy issues are closely related to various other fields, for example, security of energy supply should have a particular approach. Therefore there is a need for a separate EU wide energy strategy.
- Aspects related to traffic are included in the EU Energy policy only with regard to biofuels. The EC has set a target of 5.75% of biofuels or other alternative fuels in transport sector to be reached by the end of year 2010.
- It is necessary to establish common rules for all Member states (e.g., requirements for eco-design); however at other certain fields (e.g., intensity of use of RES) local country peculiarities should be taken into account. Reaching targets would be only possible if countries reduce energy consumption (up to 50-80%); improve energy efficiency; increase use of RES for electricity and heat production.
- In Germany there are no targets for municipalities set on a national level. Municipalities are only encouraged to support reaching national targets. Targets can be set by municipalities themselves. For example, Frankfurt has set a target to increase CHP. Munich has elaborated an Action plan for reduction of CO₂ emissions for 50 % by the year 2015. Hannover has decided that city owned energy supply company will not supply inhabitants with energy from nuclear power plants but use oil, coal and RES. Of course, consumers are still free to choose their supplier.

STRATEGIES AND CONCEPTS FOR POLICY IMPLEMENTATION IN THE BALTIC STATES

Overview on energy strategies and concepts at national level in the Baltic States

by Daina Indriksone, BEF – Latvia

Ms. Indriksone informed that national energy policy documents are adopted in Estonia and Lithuania; while in Latvia the Energy Development Guidelines (2007-2016) are in the project stage. Regarding policy goals currently only Latvia has set targets for self supply with respect to primary energy sources and electricity. Regarding use RES targets are set for electricity and heat production as well as for share of biofuels in transport sector. For example, until 2010 the countries shall reach the following targets in renewable electricity generation of gross electricity consumption: Estonia – 5.1%; Latvia – 49.3%; Lithuania – 7.0%. In comparison - in 2004, the corresponding share in Estonia was 0.5%, in Latvia – 46.5% and in Lithuania – 3.3%.

Concerning priorities in use of RES, all three Baltic States admire the need to increase the use of biomass and wind energy. State support instruments - mandatory purchase for electricity produced from RES and defined electricity purchase price are pointed out.

Ms. Indriksone informed that only Lithuania has transposed (in March 2006) the Directive on Energy Performance of Buildings (2002/91/EC) in the national legislation. Transposition of this Directive in Latvia and Estonia is envisaged by the end of 2006. In Latvia requirements will be set in a new law on Energy performance of buildings. Several Regulations of the Cabinet of Ministers will follow e.g., on state support to perform energy audits, minimum requirements on energy performance of existing buildings, energy performance certificates of buildings.

She also pointed out that in Latvia certain tasks related to energy issues for municipalities are set on a national level:

- local heat supply development plans shall be elaborated by 31.12.2007;
- conceptual solutions for heat supply must be elaborated and approved. The chosen direction has to be justified taking into account technological, economical, safety and environmental aspects;
- providing centralized heat supply service shall be done on commercial bases;
- municipalities are recommended to establish regional/local energy agencies.

Discussion

- Participants discussed further promoting the use of nuclear power in the three Baltic States. Currently all three prime ministers have signed the principal agreement on building a new NPP in Lithuania. Now the feasibility study will be carried out. Participants admitted that still prior to considering use of nuclear power Baltic States should put more efforts for energy saving at buildings and efficient use of local and RES, particularly, biomass and wind energy.
- Information of various alternative options, possible technical solutions is already available. In order to further increase use of RES, entrepreneurs need a guaranteed state financial support (e.g., feed-in-tariffs) for energy produced from RES.
- Municipalities need to put investments, attract available EU funds as well as to raise awareness of inhabitants to implement energy saving and insulation measures at buildings. In Germany energy discussion forums for various stakeholders are developed. In Latvia, establishment of local energy agencies to coordinate such activities is considered to be very useful. Successful projects carried out should be popularized in TV and press in order to convince also private house owners to invest money, take loans, etc. for implementation of energy efficiency measures.
- In 1997 due to radical changes needed the Aizkraukle municipality (Latvia) elaborated a municipal heat supply concept. In 2004 the plan was almost fully implemented – boiler house and external networks are renovated; heat meters are installed in residential houses. Implemented measures have resulted in reduction of heat tariffs. The municipality is considering elaboration of a new concept.
- At the beginning on 90s, Valga municipality (Estonia) with the help of loans and support of Sweden reconstructed central heat supply boiler house, heat nets and switched to wood chips. At the same time energy meters were installed. Benefits for heat users were obvious.
- Also in Lithuania, using international financial sources, several good energy efficiency demonstration projects (insulation of multi story public houses, etc.) have been implemented. For example, in Vilnius a project for renovation of dwelling houses, called “Renew a house – renew a city” has been launched. It has received state and municipal support, a credit from a commercial bank and investments of house owners association.

II SESSION. ENERGY PERFORMANCE OF BUILDINGS

Possibilities for energy saving measures in buildings - more than walls and windows

by Christiane von Knorre, Auraplan, Germany

Ms. Knorre introduced to the participants the holistic approach to designing and constructing new buildings while taking into account achieving the goals of maximum energy efficiency. Holistic approach means the need to start thinking about energy efficiency already in building planning phase, taking into account various factors, like climate, regional differences, density and housing estate aspects etc.

Having provided general background, Ms. Knorre gave an overview of the aspects of detailed planning, including insulation issues, energy costs of different materials, and the questions of building engineering. She gave the audience many practical hints for energy efficient building design, e.g. avoiding the construction of single detached houses, and positioning certain non-living rooms (toilets, bathrooms) towards the north.

Discussions

- Discussion developed on the exact norms and U-values of energy efficient houses based on German examples. Ms. Knorre explained that such values have been developed for new houses. The standard varies highly between house types. For example, 60 kWh/m² per year is a standard for a satisfyingly energy-efficient house, while 40 kWh/m² per year is common for highly energy-efficient houses. It is complicated to tell exact standards because they depend on the relation between outer surface and volume. The standards are available on KfW Bank homepage. Houses in accordance with such standards are built in North-Germany; the climate is generally a little bit warmer than in the Baltic States, and less hot in summer (no cooling needed), 19 degrees of Celsius can easily be achieved inside the flat.
- Ms. Knorre also stressed that while building environmental houses, it has to be made sure that that no uncontrolled ventilation occurs. Thus a really careful work with craftsmen has to take place.

Increase of energy efficiency at local level – German experience

by Heiner Bruns, City of Münster, Germany

Mr. Bruns informed participants that throughout Germany, many communities and municipalities adopt energy efficiency measures for new buildings as well as the rehabilitation of available building stock. He introduced relevant experience of City of Münster, both related to energy efficiency of new and old buildings, as well as to public and private buildings.

New buildings in Münster have to be in accordance with energy-conforming development plans, as well as taking into account low-energy house standard and relevant local/district heating situation. At first, the awareness was low and there was opposition to house rehabilitation. Thus City of Münster did example rehabilitation with good results.

Energy-efficient houses are called “Passive Houses” in Germany. Characteristics of such houses can be intelligent space concept (e.g., living area to the south / sanitary rooms to the north), high-quality insulation of all building elements and controlled ventilation with heat recovery for preheated fresh air in winter.

Discussions

- The city of Münster has much land, and there are many construction activities planned. If a resident wants to buy land to build a house, he has to guarantee building low-energy house. But on a land not owned by the city, standards are lower. Still, sometimes Münster standard is also applied without the force of city.
- As a priority old stock buildings program has been financed by the City of Münster. Main motivation has come from the climate change issue, which influences the political decision-makers in Münster really strongly. The headline „Think globally, act locally” is used. The issue of CO₂ emissions is also important for Münster. It is nearly the same scheme, as the reduction of energy consumption due to energy efficiency measures reduces the impact on global warming as well.

Increase of the energy performance of buildings – experience of municipalities in the Baltic States

As an input for discussions, the example of Cēsis (Latvia) was presented. Cēsis has private residential areas. Municipality cannot insist on renovation of such areas, so it depends mostly on willingness of

private owners. Thus the main driving force for renovations and achieving greater energy efficiency is optimizing utility payments.

The following steps have been taken:

1. Recording and registration of energy consumption (hot water, heat etc). It has been followed by insulation of internal pipes (as there is not enough money to change them), replacement of windows on entrance doors and on staircases. In apartments, residents have changed the windows themselves,
2. 4-pipe system has been changed into 2-pipe-system. Internal heating distribution system was significantly improved thereof. Investments to such changes are considerable, thus still many houses are having 4-pipe-system.
3. During nighttime, the heat supply is reduced.
4. Heat insulation is renewed in attics as well as in cellars and outer walls – this can change the situation for the whole house.

When private house is being renovated, there needs to be an agreement and general consensus among the residents. Banks require that minimum of 75% of the residents support the project. The legislation says that if general meeting has taken a decision, everybody has to comply with it. Establishing the cooperation has been the most difficult aspect in the process - without it nothing can be done.

Discussion

- The main discussion evolved around energy audit topic. Countries shared their experience. In Cēsis, no energy audit is required as banks give loans even without the audit. In Germany, for gaining support from the municipality for renovation project, an audit has to be performed. Thus people are interested, and municipalities advertise this option as well. Although it was stressed that in many cases no actions follow to energy audit, it was agreed that in general energy audit is a useful activity, as it describes the situation and residents can better understand saving possibilities.
- The level of support of municipalities to private renovation projects depends from country to country. In Latvia it's been set by the law that the municipalities cannot invest into private property (most of the houses have been privatized). For example, Cēsis municipality provides residential house owners some information, consultancy, motivation; it advertises successful cases as well. In Vilnius (Lithuania), the municipality covers the audit expenses, and helps to prepare the investment. In Estonia, no such special programs for apartment houses exist state-wide, but each municipality can have its own program. Also, renovation of small private houses can be supported. There are special pilot programs. As of now, each apartment house can borrow money from the bank; residents have good knowledge on how to do it. A special plan is made – what work is the most important, like changing the pipes, roof reparation etc. – and then the plan is followed by investments.

III SESSION. USE OF RENEWABLE ENERGY SOURCES AT MUNICIPALITY LEVEL

Use of renewable energy sources in Latvia

by Ms. Andžela Pētersone, Ministry of Environment, Latvia

Ms. Pētersone introduced her department of Climate Change and Renewable Energy Sources. The Latvian Ministry of Environment found useful to establish such a department because renewable energy has a direct link with the UNFCCC. Ms. Pētersone presented the current situation on use of RES in Latvia. Currently regarding biomass the total installed capacity is 2.5 MW; bio gas – 7.5 MW; wind – 27 MW and hydro power – 1534 MW (large scale HPP) and 26.2 MW (small scale HPP). Additionally in Latvia there are 2 pilot projects on solar energy and at individual usage level geothermal energy is utilized.

On policy level the Latvian Government has given priority to biomass co-generation projects, purchasing energy from RES are obligatory for the energy utilities for the price depending on the source.

Ms. Pētersone pointed out the main aspects related to influence of use of RES municipalities need to take into account when choosing alternative sources. She also admitted that still behavior of general public towards renewable energy projects is not very positive because there are not many good practice cases (projects) and information on economic and environmental benefits.

Discussions

- Concerning small scale hydro power plants Latvia take a decision not to construct new plants as otherwise country will face a problem to meet requirements of the EU Water framework Directive. Of course there could be new technologies friendlier to water environment and then this decision could be revised.

Combined heat power and electricity using wood – green energy in Latvia

by Mr. Ebbing Osinga, SIA “Host Energo”, Latvia

Mr. Osinga presented various technologies available for energy production from biomass. He described biomass (wood, willows, biogas, peat) potentials in Latvia. In more details technology on combined heat and power with wood was presented including concrete projects (e.g., project in Valka) as well as technology on biomass gasification and biogas power plants.

Concluding, Mr. Osinga pointed out that:

- The potential of biomass resources in Latvia are largely not exploited;
- There is a lack of know how among policy makers how to use biomass for energy needs and how much is available every year;
- There are no support programmes for foresters and farmers to collect and/or to grow biomass;
- Cities use biomass (wood) for heat production. Co-generation should be more promoted;
- Small/medium scale wood fired CHP can be the best solutions for cities and industries;
- Biogas utilities are very good for liquid and green waste streams from cities/industries and surrounding farms;
- Biogas is very useful for integrating with biomass fired CHP's. It has high efficiency on electricity and stable heat supply.

Discussions

- Participants agreed that energy source from biomass is not used enough in Latvia. There was discussion on lack of awareness of policy makers and energy project developers on energy production from biomass technologies. Biomass Combined Heat power plants should be promoted in Latvia as well as production and usage of biogas from agriculture, food industry and waste.

Use of solar energy – experience of Aizkraukle municipality

by Mr. Einārs Zēbergs, Aizkraukle City Council, Latvia

Mr. Zēbergs presented a pilot project on solar energy in the Aizkraukle municipality. The project was funded by the Danish Government through Danish Energy Agency and implemented with the assistance of Danish and Latvian consultants. The project was launched in a secondary school and 33m² of solar collector was installed on the school roof and 120 m² on the roof of boiler house. An annual energy generation from school are 13 MWh and from boiler house – 48 MWh.

Discussions

- Regarding economical effects of solar projects it was concluded that it was an expensive project but with a proper planning it could have an economical effect. Such projects are more important as having a positive impact to Global Climate Change and they could be used as useful public awareness raising tool.

Use of renewable energy source at local level – German experience

by Wendelin Friedel, City of Frankfurt (Main), Germany

Mr. Friedel introduced the Renewable energy structure and share of different RES for electricity generation where the biggest share belongs to wind energy - 45.6%, hydropower – 34.6%. Afterwards examples on renewable energy project from City of Frankfurt were presented. Electricity production from RES in Frankfurt is 5% of demand. Different project on photovoltaic, biomass sources, solar thermal plants were presented to the audience. In Frankfurt there are several good example of “Passive houses” in which energy consumption is on a very low level due to installation of proper isolation and modern heating systems.

Discussions

- Discussion developed on role of local authority in promotion of RES. Participants concluded that municipality should establish favorable conditions for use of RES but the legal framework should be developed on a national level.

IV SESSION. DEVELOPMENT OF ENERGY CONCEPTS AT MUNICIPALITIES

Survey on the approach of energy related questions in Baltic municipalities (results of the survey held by Baltic Environmental Forum)

by Ingrīda Brēmere, BEF-Latvia

Ms. Brēmere introduced to the results of survey at Baltic municipalities carried out in the frame of the project on “Information exchange and promotion of cooperation among municipalities in addressing the urban environment problems at the three Baltic States”. Survey tried to estimate common or possibly specific features, find out actions taken and main problems encountered by municipalities in Estonia, Latvia and Lithuania. In total 83 municipalities were interviewed.

Ms. Brēmere admitted that there have been no major differences in answers from large or small scale municipalities in all three Baltic States. Priorities and problems are similar. Survey results show that currently increasing energy performance at buildings is having high priority in most of municipalities. Also use of RES is a high or medium priority for more than ½ of respondents. Relevant measures are being implemented. Switching from coal to gas has been completed very many municipalities thus being not an actual issue any more.

Quite many municipalities have either elaborated their own local energy concepts or these issues are included in their municipal or regional development plans. Biggest problems related to energy issues municipalities have identified technical problems – old boiler houses, pipes and lack of financial sources for reconstruction activities.

Ms. Brēmere informed that the results of survey (in English) soon will be available at BEF homepage www.bef.lv. Besides energy issues, survey results on transport related aspects at municipalities will be highlighted there.

Development of Municipal Energy Concepts – example of the City of Münster

by Heiner Bruns, City of Münster, Germany

Mr. Bruns pointed out that already since early 1980’s elaboration of energy municipalities started in Germany. Energy concept is a good tool for active environmental protection and sustainable development of municipality. They help to improve the negotiation position in energy supply and concession contracts. Mr. Bruns emphasized that local energy concepts should:

- 1) define targets for future energy supply and saving measures;
- 2) provide arguments for energy policy discussion at local level;
- 3) provide basis for energy political decisions;
- 4) provide basis for strategies and programs of action in energy policy.

Mr. Bruns introduced to the energy and climate protection concept of the City of Münster. It was adopted in 1996. The concept had a target of 25% reduction of CO₂ emissions and identified the CO₂ savings potentials in various sectors. In 2000 a detailed study was performed in order to examine achievements. Results showed that additional measures had to be implemented. In 2005 as a result of a new gas/steam thermal power plant and construction of 18 wind power plants it was possible to reduce the total CO₂ emissions by 17%. Furthermore emphases will be put in measures in the “building and living” sector.

In the same year implementation of the concept was presented for certification at the European Energy Award. Mr. Bruns explained that the European Energy Award is a management system for the improvement of the quality of energy generation and usage in a municipality. Up to now ca. 300 municipalities from Switzerland, Austria, Germany, Ireland, Spain, Italy, Slovakia and Lithuania have participated in the European Energy Award. City of Münster is a first big city of Germany being awarded with Gold in the European Energy Award.

Concluding, Mr. Bruns emphasized that after establishment of energy concept, it is necessary to create the administration (e.g., coordination center) for monitoring implementation and execution. The energy activities must be implemented by initiation of projects. Concepts must be controlled and adjusted regularly. The European Energy Award with its instruments offers a guarantee that work steps are conducted and examined by an external institution. If the achieved results are satisfactory, the gained awards have a significant contribution to improving the image of climate protection, and also of the self image of municipality.

Discussion

- There are no national guidelines in Germany on methodology how to develop energy concepts for municipalities. All cities elaborate concepts following the provisions described above. Usually even transport aspects are included as transport is having a high pressure on air quality.
- City of Münster is implementing the so called eco audit to evaluate the implemented measures.
- Every municipality can apply for European Energy Award. Application process is not complicated and guidance will be given. European Energy Award has a similar approach like an eco audit and the award (certificate) received is an honor for municipality.
- Similar to Baltic States, also in Germany collection of liable data for CO₂ balance is challenging, especially with regard to estimations of energy demand.

3 PARALLEL WORKING GROUPS. MUNICIPAL ENERGY CONCEPTS

Participants of the working groups discussed the following aspects related to municipal energy concepts

- [What are strengths, weaknesses, opportunities and threats related to the energy concepts at municipalities?](#)

Strengths	<ul style="list-style-type: none"> • Sets up goals and directions for further development • Sets spheres of influence what is to be looked at municipalities • Sets clear and measurable targets, e.g. for energy efficiency improvements at municipalities • Targeted planning of necessary investments and budget in general • Develops prognosis, e.g. possibilities for reduction of heat losses, variation of heat production sources, technological solutions
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Weaknesses	<ul style="list-style-type: none"> • Lack of appropriate legislation set (e.g., regarding private entities and properties, requirements for environmental protection and air quality are changing) • Lack of district heating supply program at national level (clearly set zones, priorities) • Reluctance for actions at municipalities prior the development of the concept • Price for energy can not be predicted • Programs need to be reviewed periodically • Low capacities at municipalities to elaborate high quality programs • Developed programs are sometimes not implemented in practice, but just “put on a shelve” • Purchase power of consumer is not sufficient, thus sometimes measures envisaged cannot be afforded by inhabitants
Opportunities	<ul style="list-style-type: none"> • To plan / elaborate certain action plans – construction of pipes, boiler houses • To seek for EU funds, loans, projects / dedicate financial resources according to the set priorities • Information source for local inhabitants, society on the envisaged measures for energy supply • To improve environmental quality • Using more external consultancy, when possible • Initiating demonstration projects, then private investors can follow good examples on a wider scale • Choosing local fuel (provides positive side effects, like security of energy supply, and employment for local workforce as well) • Increasing public participation in energy sector planning; when consensus is achieved, the whole municipality will work for jointly set goals • Increasing the professional knowledge of local municipality employees
Threats	<ul style="list-style-type: none"> • Many uncertainties: <ul style="list-style-type: none"> ○ Price of resources (gas price has recently increased quite much, etc.) ○ Municipal budget (difficult to ensure finances) ○ Capability of customers to pay the price for service/energy supply • Political influence (politicians are changing, priorities can be also changed) • Regional reform (merging small municipalities) in Latvia is not finalized. • While choosing fashionable energy source (like wood chips for wood boilers), the municipalities are not considering future developments (like availability and price of fuel)

Participants from Latvia discussed current experiences elaborating energy concepts. For example, Riga City municipality has already elaborated the local district heat supply program (2006 – 2016) which soon should be approved by the City council. The program describes already implemented activities and future perspectives e.g., switching from coal to gas at small boiler houses, promote cogeneration, complete reconstruction of TEC-2, reconstruction of heat supply system (pipes).

Increased attention shall be paid towards energy performance at buildings (insulation measures), establishment of Riga City Energy Agency, energy audit procedure and certification. Still there are many unclear questions e.g., interests of private heat supply entities, freedom of boiler house owners to choose fuel sources.

The heat supply program of Jelgava City has been already approved. Main priorities are related to increase of energy efficiency, decrease of losses in heat supply, construction of two gas CHP stations, increase of energy performance at buildings (participation in a joint project with Germany), increase awareness of local inhabitants. Benefits from implementation of house insulation measures are highlighted. It is also envisaged to establish Jelgava Energy Agency.

Generally, in all three Baltic countries development level of energy concepts varies to a great extent – some municipalities had elaborated a clear strategy already by the end of 1990s, others (especially smaller ones) start doing it now. Many of them include energy aspects in general municipality development plan (especially energy efficiency), but only a few municipalities have worked out a particular plan for energy sector planning on municipal level.

- **What are the needs for next steps to implement the energy concepts at municipalities?**
 - To approve basic positions and developed concept at national level and set clear priorities, strategies and support from the state level
 - To set clear and concrete tasks for implementation, decide on responsibilities, set time lines and plan financial resources;
 - To work on coordination of actions among municipalities and on harmonisation of view points of local deputies and experts at municipalities;
 - To ensure control mechanisms over implementation process;
 - To establish local Energy agencies taking into account local circumstances and size of municipalities;
 - To increase the human capacities in municipalities regarding energy issues;
 - To assess/model the situation, both current status and development in the future;
 - To carry out practical measures (e.g., setting the prices, development of projects, finding means for attracting of financing, feasibility studies on technologies);
 - To increase information dissemination and public discussion / dialogue on energy issues;
 - To involve inhabitants in actions.

The experience in implementing air protection projects and future opportunities in Latvia

by Juris Mālers, “Environmental Investment Fund” Ltd., Latvia

Mr. Mālers briefly introduced to the Environmental Investment Fund. Its activities are aimed at maximum environmental benefit, by investing funding for implementation of environmental infrastructure development projects. Among others building insulation and providing environment friendly heating projects have been supported by loans with low credit rates. The fund supports also with project management, supervision and implementation monitoring. More about the projects can be found at www.lvif.gov.lv

Further on Mr. Mālers presented the housing rehabilitation and energy saving initiative. As the result of this initiative 8 residential houses have been fully renovated (4 - in Broceni, 2 - in Riga, 1 – in Salacgriva, 1 – in Liepaja). Mr. Mālers described the activities carried out in these buildings e.g., replacement of windows, insulation of walls, top floor ceiling insulation, installation of thermoregulators on each radiator, heating energy meters on each radiator, cellar insulation. Monitoring of projects have showed that applied measures in most cases have resulted in ~50% reduction of specific thermal energy consumption, heating costs during the “heating season” as well as CO₂ emissions.

Mr. Mālers highlighted that the key problems and challenges for implementation are the following:

- It is difficult to make 75% of apartment owners to agree to take a loan (a loan prerequisite without the property pledge).
- It is difficult to make residents to agree on the eventual activities and loan terms, as there are residents with varying income levels A part of residential income is either too low or too unstable for the family to afford additional long-term commitment.
- Still a number of apartment owners are not aware that maintenance of the shared property is residential obligation.
- Programs are provided for complex building renovation. Not all residents are prepared to undertake major credit liabilities required to fund the building renovation.
- People lack collective borrowing experience therefore their attitude is reserved.

Further Mr. Mālers introduced to the funding scheme for boiler house reconstruction project. Within this scheme 8 parish owned boiler houses have been reconstructed for transition from fossil to biomass

use. Project monitoring results have showed substantial reduction of CO₂, SO₂, and solid particle emissions. Efficiency of boilers has increased.

Mr. Mālers informed that also in future municipalities can apply for funding at Environmental Investment Fund (loans) and Latvian Environmental Protection Fund Administration. Other funding possibilities will be through Common implementation projects facilitating attaining of green house gas emission reduction.

Discussion

- Application forms are available in the homepage of Environmental Investment Fund. Municipalities have equal rights to apply for financing, but in order to get a loan municipality firstly needs to receive from the Ministry of Finance a permit.
- Participants admitted that in Latvia there is lack of knowledge about different funding possibilities for municipalities and entrepreneurs. More information on Internet e.g., at Ministries of Environment, Finances should be made available.
- In Lithuania there are local funds (loans and grants - 70% or up to 350 000 LTL) available for municipal enterprises. Priorities – air protection, water protection and waste management.
- In Estonia municipalities/private entities can apply to the Estonian Environmental Centre and Cohesion funds.

Projects and funds available for municipalities in Latvia

by Uģis Sarma, Ministry of Economy, Latvia

Mr. Sarma informed that in Latvia besides the draft Energy Development Guidelines (2006 – 2016), there are programming documents drafted for the use of European Structural Funds (ESF) for the period 2007 – 2013. He introduced to the necessary investments needed in order to achieve the set targets. For example, in order to reach the targets in 2016 for:

- 1) reduction of losses in heat supply networks and increase energy efficiency of heat sources, more than 200 million LVL are necessary;
- 2) reaching the installed capacities in cogeneration plants for electricity generation (50MW), 90 million LVL are needed;
- 3) reduction of energy consumption at buildings from 220-250 kWh/m²/year to 150 kWh/m²/year, 1100 million LVL investments are necessary for the period until 2020.

Further on Mr. Sarma introduced the future possibilities for funding from the ESF for:

- 1) heat supply (increase of energy efficiency, switching to RES or peat) are 63 million EURO. Applicants – licensed heat supply companies, municipalities, local heat supply owners;
- 2) biomass cogeneration – 22 million EURO. Applicants – licensed energy supply companies;
- 3) energy performance at buildings – 24 million EURO for public buildings (earmarked subsidy up to 50%); for residential houses 8 million EURO (guarantee fund). Applicants – owners of public and private houses.

In order to receive possible investments from ESF, part of necessary finances should come from other sources (municipal, private, commercial, state). Evaluation of project applications will be in open tender procedure.

Discussion

- Participants pointed out that private companies are concerned about energy policy - clear guidance, set priorities and targets as well as support schemes in order to make investments in new technologies e.g., cogeneration, biogas generation from organic waste. Mr. Sarma admitted that issuing of new policy documents is a slow and time consuming process. Firstly there should be a political decision and a common agreement reached between the Ministry of Economy and the Ministry Environment. Currently it can be envisaged that the Energy Development Guidelines would be approved by autumn 2006. Also documents for use of ESF for biomass cogeneration shall be approved by that time.

CONCLUSIONS

Use of energy sources

- New threats and challenges – higher prices, security of supply and climate change - are arising for the energy sector at EU;
- Possible directions for development in future include reduction of energy consumption (50-89%) and use of renewable energy sources not only for heating but also for electricity generation;
- Targets are set on national level but there are no supporting mechanisms for municipalities to participate in achieving these targets;
- Municipalities are free to choose primary energy source for local supplies and decide on setting local targets.

Energy performance of buildings

- Implementation of energy efficiency measures is the first and the most important step in reduction of energy consumption at local level;
- Energy efficiency begins already with the design of a building (e.g. *passive houses*);
- Role of municipality can be promoting implementation of energy efficiency measures and awareness raising;
- Practical implementation at local level is often ongoing on the project basis.

Renewable energy sources

- Promotion of RES and meeting the Kyoto targets at the Baltic States are under responsibility of at least 3 ministries, and therefore coordination is essential;
- Although the Ministry of Environment has a clear picture on how to achieve targets there is lacking a communication with the local level;
- In order to promote development of RES the State has to introduce efficient incentives for investors.

Energy concepts/ strategies at local level

- Energy concept is a tool to address energy issues in the implementation activities as well as to attract general public in development and implementation of the concept;
- Energy concept should be linked to various sectors (environmental, social and economical);
- Also transport issues should be an integrated part of the energy concept.

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