

## Urb. Energy Midterm Conference on sustainable urban development planning and financial approaches

### Summary of the panel discussion on “challenges and potentials of energy efficient upgrading of neighbourhoods” as third session of the conference in Warsaw, 10-06-2010

The third conference session was a panel discussion on the challenges and potentials of energy efficient renewal of neighbourhoods in the context of integrated development concepts. General objective of the panel discussion was the identification of the important potentials, challenges and threats for energy efficient renewal of neighbourhoods in the context of integrated urban development concepts and of necessary next steps towards successful implementation of energetic renovation schemes in the target areas.

After an introduction of the topic by the moderator Mr. Marcin Malinowski from Nape the panellists were introduced and two questions directed to each panellist. The panel consisted of Ms. Mirja Adler from Kredex, Estonia, Mr. Christian Huttenloher, Secretary General of the DV, Germany and Mr. Andrzej Rajkiewicz, Nape, Poland. Mr. Rasinski, the mayor of the city of Piaseczno, was excused due to his urgent responsibilities dealing with the flooding in his municipality.

The answers lead to an open and lively discussion with the audience.

The purpose of the discussion was

- to address the major topics about energy efficient refurbishment of neighbourhoods in the frame of urban development concepts,
- to identify the existing potentials for energy savings and reduction of CO2 emissions in the TAs
- to identify (based on the experiences generated so far in the project) the major challenges/bottlenecks about the realisation of integrated concepts and
- to indicate the direction of possible solutions/approaches.

In a further step, the outcomes of the discussion will serve as the base for a joint midterm project paper with the first conclusions/hypothesis for the development of transnational recommendations.

In his introduction, the moderator first summarised the presentations and discussions of the conference day. He concluded that all participants learned from the Urb. Energy partners what problems are of their primary concern in integrated urban revitalisation conducted in accordance with sustainability and energy efficiency principles at work in the target areas and what solutions are actually available within EU.

He then tried to categorize the discussed challenges in three main, distinct but closely intertwined issues:

- Structural challenges
- Demographic challenges and
- Financing challenges.



The first group includes challenges derived from existing structures (administrative, ownership related and participation related) like the non comparability of administrative units and grown urban areas, when administrative area delimitation does not match problem area delimitation or land ownership division does not reflect the structure of its use, or desired management and operation of existing housing stock doesn't meet demand reflected by society's age profile in terms of supply, in terms of quality, in terms of particular residential unit (flat) area.

Another problem identified lies in the complex fragmentation of the decision-making processes. The ongoing fragmentation of public realm into sole proprietorship, neglecting the fact of daily needs and ergonomics of multi-unit residential buildings operation may lead to procedural problems of decision making in which the weak opposition may veto general need.

The second group of challenges deals with demographic changes, that vary during target areas but are an important challenge for all. Aging and migration are core issues. To bridge a gap in revitalisation active people should be encouraged to move in and balance social stagnation in TA's. This applies to both German cities and to Piaseczno which TA is isolated from overall stunning city population growth and mobility. Can revitalisation programmes bridge this gap?

The question of financing is vital to long term impacts of energy efficiency renewal of residential housing and sustainable development of such areas in general. Despite the quality and efficiency of actual loans schemes and available programmes by EIB or World Bank the long procedures create a problem. The time-consuming actions of commissioning, public procurement and tender procedures required by public investments seem to be neglected by financial institutions, which used to time transactions by stock market electronical rapidity. The question remains how to provide money for long-term investments with high public discount rate, but with poor private discount rate i.e. money in terms of grants not in terms of loans.

Typical challenges that were already identified within the project discussions include heterogenic owner structure, insufficient financial means and funding, potential deficits in the capacities of the responsible authorities, the need to raise awareness among owners/inhabitants and involve them into the communication process, missing cost-benefit analyses.

So the panel discussion focussed on two main key questions:

- Does the local level have the capacity to carry out the new financial approaches for an integrated, energy efficient urban development?
- What are the most efficient/suitable approaches (tailor-made solutions) to sustainable urban energy planning (EER of buildings+infrastructure and other)? Are they transferable to other regions and if yes, how?

More in detail, the following questions were directed to the panel participants:

To Mr. Huttenloher:

The housing stock is one of the mayor contributors to energy consumption and CO2 emission in the European Union. In particular the refurbishment of large residential areas with multi-apartment buildings bears a high potential to implement energy saving measures and improve energy efficiency by construction and operation and maintenance measures.

As we learned in the first part of the day, an important aspect of UrbEnergy's approach to tackle this issue is to consider residential areas as a unit and to develop integrated concepts for neighbourhoods. These concepts address different sectors but use the neighbourhood as bonding element.

From your point of view: What opportunities do this kind of comprehensive approaches - that focus on the overall development of a clearly defined residential area - offer to promote the energy efficient refurbishment of the existing housing stock?

Mr. Huttenloher emphasized that it is of utmost necessity to coordinate the different actors and to involve every stakeholder into the planning and preparation process. He said that is a crucial issue to involve especially the inhabitants either tenants or apartment owners and to convince them of the benefits of energy efficient restoration. He also pointed out that identified obstacles need to be removed first before a successful implementation process could start. Finally he concluded with a vision for the future i.e. to reshape the structure of the cities towards a sustainable and low carbon future.

To Ms Adler:

In December 2008 your organization, the Credit and Export Guarantee Fund - Kredex - launched a loan programme in Estonia to provide owners of apartment buildings with a loan with lower interest rates than market price for construction works related to energy saving. Last year you started with the preparation of a grant with the purpose to support complex renovation of apartment buildings for improvement of energy efficiency and usage of renewable energy. Do apartment owners and housing companies in Estonia have now sufficient financial incentives to invest into their buildings? What still hampers owners - private owners that use apartments by themselves and companies that rent out the flats - to invest into the energy efficient refurbishment of the buildings?

Ms Adler reported that the current loan scheme is not at all sufficient to cover the needs for energy efficiency restoration. Estonia has, as she pointed out, a very small rental sector of around 5 %. The apartment owners are not willing to go for loans because of some mental restrictions not to make loans or because of simple lack of money to pay back. She announced that in autumn 2010 a green investment scheme will be launched in Estonia with probably more favourable conditions, which might help to solve the situation.

One key factor that might increase the success of an integrated concept for a neighbourhood seems to be the participation of the residents into the elaboration process. Thermo-insulation might not be the first priority that pops first into the mind of the majority of the residents. Last year in Estonia a huge campaign was launched to promote the energy saving measures. What else is important to integrate the population of major housing estates, to convince the residents about the importance of this topic and to stress out the expected benefits?

Following Ms Adler it occurs, that there is a mistrust among residents in the economical output of investment in improving their buildings, caused by belief, that all due money was paid already to building managers, who should have used it to the purpose. In economical term, there is willingness to pay for energy efficiency, but psychologically there is a resistance that must be covered by better incentives than proposed already.

To Mr Rajkiewicz:

We have learned that it is a matter of cost-effectiveness whether house owners invest into the energy efficiency of their buildings.

NAPE is in Poland promoting the thermo-insulation and the use of renewable energy sources. You were able to gain a lot of experiences about approaches to increase energy efficiency in the housing sector.

If we now template these neighbourhoods with multi-storey buildings made by concrete panels which are so typical for wide areas in Poland but as well for the other countries around the Baltic Sea:

On one hand, we have a strong political interest to activate the CO<sub>2</sub>-reduction-potential of these areas. Already now there are highly sophisticated technical solutions available.

On the other hand, the problems that should be addressed in such kind of neighbourhoods are multi-folded and financial resources are limited.

Against that background: What are the refurbishment activities that should be done and what could be done?

Mr. Rajkiewicz explained that refurbishment needs in Polish municipalities are quite unlimited and spoke of a never ending story. The housing stock built in the 60/70 years of least century need a complex total modernisation of heating systems, insulation of walls, roofs, cellars, replacement of old gas boilers for hot water preparation and some solar heating were appropriate.

He estimates an energy saving potential in TA Piaseczno of 35% and a reduction in CO<sub>2</sub> emissions of around 760 tons per year. He also stated that a reduction in heating costs of around 50 % will lead to an amortisation rate of 15-20 years.

From the audience one special input was made on a more theoretical base. Mr Buczek - vice president of Warsaw chapter of Polish Urbanists Association asked whether following the moderator's question whether it is recognized, that process of revitalisation shall take into account not only the obstacles to overcome, but also physical structure of the city, seen as a system requiring redesign Mr Buczek criticized both planning practices and energy efficiency of buildings as lacking common methodology, pointing out, that the value of revitalisation should be sought in urban planning, rather than in buildings refurbishment.

Mr Malinowski responded that there are many attempts to cover the issue, yet mostly not satisfactory from scientific point of view. There are a study by Prof. Serge Salat, who associated energy consumption rate to city structure, of mass and energy input provided by Prof. Oguro and many attempts to model city structure for road network efficiency based on graph theory or to model interrelations based on cellular automata. Most promising from energy saving point of view are tools to evaluate sustainability like SBTool, which was adopted to assess new urban development of Monaco and Masdar City. Anyway, there is no simple answer which pattern of city plan is optimal from mathematical point of view, even if we have simple pattern of three interrelated neighbourhoods.

At the end of the question session the moderator Mr. Malinowski and Mr Huttenloher from the lead partner DV closed the discussion and thanked warmly all participants and speakers from the audience. Mr. Huttenloher said that he enjoyed being here today with his project Urb.Energy as a guest in the capital of Poland and very near to the target area Piaseczno.

He pointed out that the discussion among different experts from different countries of the Baltic Sea Region was very fruitful and the different approaches for the energetic upgrading of neighbourhoods in the frame of integrated development concepts will be developed further in more detail as well as experts discussions will continue more deeply going into details of technical concepts, business plans and funding issues.

He considered that the identification of typical challenges was a first important step to achieve policy recommendations as the additional value of the experience exchanged about sustainable urban development in the frame of this European project.

He stated that it might be too early yet to draw any conclusion important to communicate to the responsible persons at the European Commission but that the discussion of the various financing instruments provided by EU should definitely be précised and further investigated. As a general outcome of the midterm conference he experienced the necessity to focus on communication, awareness raising and participation of inhabitants to the planning and implementation process in order to overcome psychological obstacles and barriers and better point out to them the benefits and potential results of energy efficient renewal of neighbourhoods.

