Retrofitting Social Housing and Active Preparation for EPBD

Newsletter No.3 January 2008

Project Summary

The project RESHAPE is supported by Intelligent Energy-Europe programme of European Union. It started in January 2006, with duration of 30 months. The project is a common action of ten partnering organizations, coordinated by Ecofys.

RESHAPE covers six pilot countries: The Netherlands, Belgium, Spain, Estonia, Czech Republic, and Bulgaria. Through dissemination activities, the target area has been enlarged with Romania and Greece.

RESHAPE contributes to the implementation of the EU Directive on the Energy Performance of Buildings (EPBD) by the following activities:

- Demonstration of the preparation of social housing actors for implementation of the EPBD by planning and testing the integration of energy performance certification (EPC) in operational processes and services.
- Testing and demonstration of added-value opportunities of EPC.
- Development of support tools (guidelines, training materials, and best practice examples) for West-Europe, South-Europe, and East-Europe.
- Dissemination of the project outcomes to social housing actors in order to increase their awareness and change their attitude towards solutions for refurbishments.

Targeted groups and key actors

- Social Housing Stakeholders (housing associations, housing co-operatives, federations of social housing actors);
- National agencies, regional agencies, and municipalities;
- Building construction and financial sectors.

Consortium Partners

No	Participant name	Country
1.	Ecofys B.V.	Netherlands
2.	Woonstichting Etten-Leur (Woonwel)	Netherlands
3.	De Zonnige Kempen CV (DZK)	Belgium
4.	Vlaamse Huisvestingsmaatschappij (VHM)	Belgium
5.	3E nv	Belgium
6.	Estonian Union of Housing Co-operative Associations (EKYL)	Estonia
7.	Bulgarian Housing Association (BHA)	Bulgaria
8.	Black Sea Regional Energy Centre (BSREC)	Bulgaria
9.	Stredisko pro Efektivni Vyuzivani Energie (SEVEn)	Czech Republic
10	ADIGSA, empresa publica	Spain

Conclusions

At the last meeting of RESHAPE partners, some conclusions were drawn:

- Among the project countries, there are big differences in the social housing sector, the refurbishment processes, and the legislation related to EPBD.
- The building labelling system in the countries is much different. Adoption of uniform labels in EU can be considered.
- When making an audit of the energy performance of social houses, it is recommended to use a proven instrument with a balanced difficulty in handling, good presentation of results and thorough calculation.
- Many energy performance instruments are not designed for existing buildings, but only for new ones. Additionally, some instruments designed for new buildings are not applicable for the exploitation phase of the building.
- Energy consumption has a strong social dimension - a high proportion of the expenses of the low-income population is spent on energy.
- It is crucial to involve the tenants in the building retrofitting process, as they are the most important players.

Results in RESHAPE countries

Belgium

Energy audits with the Flemish tool for EPBD have been completed. Calculations of the existing situation and simulation of the renovated building parameters were made. Also tenants were asked to monitor their energy consumption in the previous winter.

After the audits, a decision to follow up the whole retrofitting project of 42 dwellings was taken.

The renovation began in November 2007 and will be finished before the end of this winter. The main energy savings will come from roof insulation, insulation of some facades, new windows, removal of cold bridges, and installation of a ventilation system.

One of the renovated buildings

After the renovation, a campaign to monitor the energy consumption will be organised, again in cooperation with the tenants. The realized energy savings will be compared with the software calculations.

A calculation tool capable to translate the database of the building stock in an estimated energy consumption and energy saving potential will be developed.

In addition to involving the tenants in the measurement of their energy consumption, Zonnige Kempen has started an awareness campaign. As a result, the tenants became interested in their energy consumption. They talk about it with each other and share experiences ("tricks") on how to decrease that consumption. By making an attitude change, without sacrificing the energy comfort, 8% drop in the energy consumption has been achieved.

Bulgaria

Support tools on energy efficiency measures applicable to the existing condominium housing in Bulgaria have been developed in 2007. The tools demonstrate the costs savings resulted from the improved energy efficiency and compare it with the required investment for implementation of the renovation activities.

The support tools consist of a handbook and newsletters and are targeted at newly emerging unions of homeowners. They will be distributed through the Union of Homeowners Associations (CAC), which is the umbrella organization of residents of condominium buildings in Bulgaria. Before the distribution, each of the three member associations of CAC is providing feedback on the tools.

The best practice examples from other countries are being collected and assessed in view of their applicability to the Eastern European Countries area.

The materials developed within RESHAPE will contribute to the improvement of the current audit methodology for certification of collective residential buildings. The set of data for the reference buildings audited under the project will be submitted to the National Energy Efficiency Agency, so that they can use it to improve and simplify the existing certification norms.

Czech Republic

In 2006 and 2007, 41 energy audits have been made in a big condominium in Praha 8. The audits covered 3 438 flats with a total flat area 248 thousands m2. The calculated thermal losses are 14.2 MW. All buildings were constructed in the period 1965-1987. The small buildings constructed before 1970 are made of masonry and the ones after 1970 - of various kinds of panels.

At the moment, the average energy consumption of all buildings is 47 % higher than the accepted satisfactory levels today. The main thermal losses are caused by poorly insulated vertical wall panels and roofs, as well as by old windows.

Refurbishment of a building constructed in 1973

The annual heat consumption is 132 thousand GJ and the calculated annual savings are 39 thousand GJ. The calculated investment costs are 474 mil. CZK (€17 mil.) with an average simple payback of 27 years.

All building committees received the audit results and the respective building label, so that they can easily see the energy efficiency of the building, recommendations for its improvement, and financial evaluation of the potential measures. Each committee had to take an individual decision on whether to proceed to reconstruction. Most committees refused to proceed, because they did not have available persons to take care of the reconstruction. Only three committees started to prepare a reconstruction concept. Due to tenants' opposition to one of the projects, it was abandoned and only two projects were approved.

The auditor met the tenants and presented to them the optimal reconstruction process. Some tenants were interested to discuss the reconstruction step by step. The following conclusions can be drawn from the meetings with tenants:

- Many tenants object big and costly reconstructions.
- Older people are not willing to take a loan; they prefer to self-finance the expensive solutions step by step.
- Many tenants do not realize that their heat consumption influences their costs. Particularly, most tenants over 50 years old cannot get used to the fact that their energy cost is not negligible any more.

Estonia

The Estonian Union of Co-operative Housing Associations (EKYL) has performed 14 pilot audits in social houses. The analysis of the results and conclusions have been introduced at several conferences in Estonia and Poland. The main conclusion is that not all audits have high quality, perhaps due to the lack of regulatory requirements concerning the auditor qualification and certification. This problem was highlighted during a meeting organized by EKYL and it seems that in 2008 it will be solved. Training of auditors is ongoing at the Ministry of Economic Affairs and Communication.

After the completion of the pilot audits, the associations of home owners examined how the recommended measures can be implemented. It was found that there is no available financial support for some energy saving measures, such as heating system renovation, and they cannot be implemented, although they have relatively short payback. Other measures, such as external wall insulation, are financially supported and can be implemented easier, although they have relatively long payback period.

The development of the training materials based on the audits and other results is ongoing. The first draft is ready and it was presented on 6th December 2007 at a meeting organized by EKYL. This meeting also aimed to introduce the audit results and collect feedback from representatives of the target groups in Tallinn.

Spain

On 15th November 2007, Adigsa and social housing promoters' association in Spain (AVS), organized a second workshop within RESHAPE. The workshop, named *Barriers and best practices for energy refurbishment in social housing*, has been attended by 20

representatives of social housing companies (state owned) around 7 different regional administrations.

The workshop has been divided into three main parts. The first one, dedicated to the certification implementation at regional level, has shown that a lot of work has still to be done by the regional administration although the energy certification of new buildings is required to building promoters since 1st November 2007.

In the second part, some experiences (best practices) on energy refurbishment and energy savings evaluation tools (E-tool) have been presented. There are only few experiences of energy certification of existing buildings, because the technical requirements for the certification of existing buildings have not been defined by the government yet. All workshop participants agreed that the certification tools for existing buildings should be simplified, due to lack of available data.

Finally, during the afternoon, all participants made an attempt to formulate the main barriers in social housing energy refurbishment practices and to propose measures to overcome these barriers. All participants pointed out the importance to manage well the energy refurbishment activities and that energy technician formation and communication with tenants are needed. Lack of maintenance practices in Spain has been stood out too.

The workshop conclusions will be available soon at Adigsa's RESHAPE website and later will be disseminated to Greece.

The Netherlands

In the framework of RESHAPE, Woonstichting Etten-Leur (WEL, a Dutch social housing association) has decided to investigate the energy performance of all of its dwellings, in order to know how this performance can be improved at reasonable costs. The results will be used for:

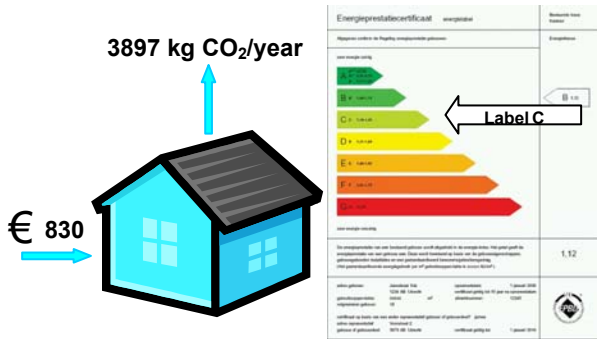
- communication with the tenants about the energy label and the impact on the total living costs (i.e. rent + energy costs).
- implementation of energy labeling in all work processes at the company. This policy has to be based on the total living costs instead of just the rental price.

At the 16th of August the results were presented at a workshop, meant for employees of (WEL), managers of the city council of Etten-Leur, and some coordinators of the Dutch Energy Agency (Senter-Novem) and the Organisation of Social Housing Associations.

The outcome of the evaluation of the energy performance of the 4300 dwellings that are owned and managed by WEL, based on reference buildings/blocks is the following:

- the mean CO_2 emissions are about 3900 kg/year,
- the mean dwelling has label C.
- the yearly dwelling-bound energy-costs are about € 830.

Potential tenants can see the energy-performance of a house they want to rent on WEL's website, so that they can make a well-considered decision, not only based on the lowest rent.



Two parts of the building stock investigated:

Rochussenlaan is a couple of single-family dwellings, built at the end of 1950s. No improvements have been taken since then. This results in poor energy performance and the mean energy label of the dwellings is label F.

A	0,0%
B	0,0%
C	0,0%
D	0,0%
E	24,1%
F	39,2%
G	36,7%

Kerkwerve is an apartment building, including 45 dwellings and built in 1962. Later, some improvements have been introduced and this results in reasonable energy-performance. The mean energy-label of the apartments is label C.

A	0,0%
B	0,0%
C	62,2%
D	37,8%
E	0,0%
F	0,0%
G	0,0%

Please visit our website for more results