



NAMŲ PRIEŽIŪROS CENTRAS Ltd.

Training courses for tenants

NPC TRAINING COURSES

UNDER EGCN NAS PROJECT

“ENERGY SAVINGS INVESTMENTS

THEIR ADVANTAGES AND OPPORTUNITIES”

Vilnius, 2005

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NPC TRAINING COURSES

“ENERGY SAVINGS INVESTMENTS. THEIR ADVANTAGES AND OPPORTUNITIES”

Timetable

NPC training courses took place at the NPC office, dwelling houses' halls, as well as halls of the Municipality's district departments. They were organized by two stages:

1. On the 13th, 14th, 15th, 16th of December, 2004 and
2. On the 17th, 18th, 19th, 20th of January, 2005.

One day of training courses was divided for one of the chosen dwelling house (see “[Target group](#)”) and took about 4 hours.

Objectives

Vilnius city was chosen for these training courses, as NPC supervises houses in the capital of Lithuania. The territory of Vilnius city is 401 km² and there are more than 553 000 inhabitants. Heat is supplied by district heating to 90% of Vilnius inhabitants. Only 20% of all dwellers in Vilnius are organized in Home Owners Associations (HOAs). More than 60% of multi-flat houses are built 25 years ago, so more than 3600 dwelling houses have antecedence in renovation process. It is planned to renovate these houses during 15 years, till 2020 year. The energy savings after renovation can reach 50% of the previous situation.

That is why it is very important to stimulate people to be more active in renovation process. The first step in this process is the process inhabitants' organization in HOAs. So, the main objectives of NPC organized trainings were to raise awareness regarding energy efficiency and energy building technologies, as the motivation of multi-flat houses owners to establish HOAs or to become organized in some other ways is potential energy savings as part of ownership commitments.

The main task was to initiate improvements in residential energy efficiency and to promote rehabilitation of multi-flat houses by explaining inhabitants the reasons of inefficient energy usage in multi-flat houses nowadays and showing already implemented successful examples in Lithuania

and in other countries, as well as the explanation of inhabitants' opportunities in case they are willing to improve situation in their dwelling houses.

Target group

The “key players” of the trainings focused on the urban management processes regarding sustainable building promotion. Participants of the NPC trainings were representatives of the Vilnius Municipality, heads of HOAs, consultants from dwelling house consulting agencies, workers of building rehabilitation enterprises.

The main target groups were inhabitants of the NPC supervised houses, which are of the poor technical conditions and for which energy performance passports were made. NPC experts have made analysis of condition of the construction elements and have chosen 8 houses, which are of very poor technical conditions. After analysis of state of the walls, stairs and corridors, roofs, windows, balconies and cellars, heating, hot water and electricity systems, lifts and the surrounding areas. The following table shows the main results of this analysis, where “4” – good, “3” – satisfactory, “2” – bad and “1” – particularly bad conditions.

Address	Year	Nr. of flats	Conditions of the constructural elements / requirements of renovation										
			Walls	Stairs and corridors	Roof	Windows and balconies	Cellar	Heating system	Heat and water distribution system	Electricity system	Lifts	Territory	
Gerosios Vilties 16	1964	100	2	3	2	2	2	2	2	2	2	-	2
Savanorių 65	1969	78	3	3	2	2	2	2	2	2	2	-	3
Skroblų 15	1968	203	3	2	2	3	3	2	2	2	1	-	3
Skroblų 29	1975	61	3	3	3	3	3	3	3	2	3	-	3
Erfurto 24	1969	60	3	3	4	3	3	3	3	3	3	-	1
Subačiaus 45A	1969	49	3	3	2	3	3	3	-	3	3	-	3
Polocko 1	1940	20	2	2	2	3	2	2	-	2	2	-	2
Polocko 6	1940	95	2	2	2	3	2	2	-	2	2	-	3

This table shows that the most of elements in these houses are of bad or satisfactory conditions. So, for these houses energy performance passports were made (see “[Energy performance passports of the buildings](#)”).

The dwellers of all these houses are not organized in HOAs, and these houses are supervised by NPC company. That is why these inhabitants were chosen for training seminars as a target group, in order to organize them for decision-making concerning renovation of these houses.

Training courses program

1. At the beginning of the training courses, the energy concept in multi-flat houses was explained. The main questions for raising inhabitants’ consciousness were:
 - ✓ What is energy?
 - ✓ Its production resources.
 - ✓ Heat and electricity demands.
 - ✓ What are heat losses, their reason?

2. NPC consultants described the multi-flat house situation in Lithuania nowadays, as well as the main reasons of the bad situation in Lithuania concerning efficient energy usage in dwelling houses. The main reason of bad situation in dwelling sector is the influence of the past, i.e. Soviet Union period, on the mentality of inhabitants. Realizing this reason is the first step in renovation and modernization process.

3. Next discussion was initiated by the representatives of house renovation program coordinators – Vilnius Municipality, Vilnius District heat network company and Vilniaus Energija Ltd. They showed real and possible solutions to change multi-house situation. It was explained inhabitants, that energy audits and investments projects are the first and obligatory steps among the main tools for building renovation.

NPC consultants also stressed the issues of the EGCN project successful experience:

- ✓ to isolate walls, roof, floor;
- ✓ to change windows;
- ✓ to renovate boiler houses;

- ✓ to implement heating regulation system;
- ✓ to use secondary heat in ventilation system.

4. NPC together with Lithuanian consulting agencies shared the succeeded examples of already implemented projects in Lithuania and other countries.

Again the experience and ideas of EGCN in inspiration of energy efficiency implementation projects through the successful stories, ecological housing projects were stressed and EGCN demo projects were described.

Few "Success stories" of implemented Energy Efficiency Housing Pilot Projects in Lithuania were explained, based on such questions as:

- ✓ how the building was modernized?
- ✓ what was the final price?
- ✓ what was the price for inhabitants (Lt/m²)?
- ✓ the main results (energy savings, opinion of inhabitants, pay-back time).

5. With the help and assistance of Vilnius municipality's and Ministry of Environment's representatives, existing opportunities for inhabitants in renovation process were described. Nowadays, Lithuanian strategy for dwelling houses and Lithuanian program of dwelling house modernization and financing are the basic documents for multi-flat house renovation process.

6. The most important point was to explain people as simply as possible the main steps of house renovation, in order to avoid their fear of starting this long unclear process. The main steps of dwelling-house renovation are:

- ✓ to establish homeowner's association;
- ✓ calculations (energy audits, investments projects);
- ✓ procedure of getting bank/fund loans;
- ✓ renovation of the building;
- ✓ monitoring the results.

7. NPC consultants represented the existing dwelling houses renovation program, which is taking place in Vilnius nowadays (see "[Legislation](#)") The special fund for dwelling house inhabitants was created in order to help people in house renovation process. Energy audit

and investments project of the multi-flat house can be made for free for those HOAs, which decided to renovate the accommodation. During NPC training courses the process of using such opportunities was described. The expected results of the calculations were explained to the inhabitants.

8. The additional means to get inhabitants involved in the process were created:
 - ✓ Brochure;
 - ✓ Questionnaire;
 - ✓ Energy performance passports of the buildings.

BROCHURE

NPC designed brochure was distributed to inhabitants of the houses that are supervised by NPC. This brochure is a good and simple information source about potential energy savings in the multi-flat houses and motivation for the tenants to establish HOAs as the first step towards their owned building renovation. Examples of successful renovation stories in Lithuania and abroad complete the material.

There is information about energy losses' causes, the means to reduce them, and there is also explained what are energy audits, investments projects and energy metering. The main goal of issuing this brochure is to motivate and to get inhabitants acquainted with their opportunities to make their owned houses more energy efficient and to use currently suggested financial possibilities in Vilnius.

QUESTIONNAIRE

NPC consultants distributed the questionnaire for the participants of the training courses in order to analyze their results. So, the answers to questionnaires showed the participants' evaluation, number of attendances, and the attitude of inhabitants to all issues that were touched during training courses.

ENERGY PERFORMANCE PASSPORTS OF THE BUILDINGS

Energy performance passport (EPP) of buildings is an important instrument to reach energy efficiency. NPC had tested chosen 8 houses, supervised them, and finally prepared the Energy Performance Passport for houses in a purpose for internal information use, as well as external aims of renovation process.

In chosen 8 houses a large potential exists for energy efficiency improvement. To overcome the main barriers, changes in people mentality and their awareness need to be developed. Energy performance passport of buildings is an important instrument that should be part of renovation process. These measures are therefore addressed in energy efficiency legislation on the European Union level.

Energy performance passports can be defined as follows:

The energy performance of a building is the total energy efficiency of a building, reflected in numeric indicators, which have been calculated, taking into account insulation, installation characteristics, design and positioning, own energy generation and other factors that influence the net energy demand. Furthermore, the energy performance passport of a building is an NPC internally used document, in which the result of calculation of the energy performance of a building is presented.

LEGISLATION

In January 2004 Lithuanian Government approved Lithuanian Housing Strategy. Strategy lays down objectives important to each individual of our society: to ensure broader housing choices to all social groups, to rationally use the existing housing stock and energy resources necessary for its adequate maintenance and renovation, to improve capacity of housing entities to participate in activities of the housing market and management.

RESULTS OF THE QUESTIONNAIRE

During this NPC training courses much more women participated than men, as you can notice on the figure 1.

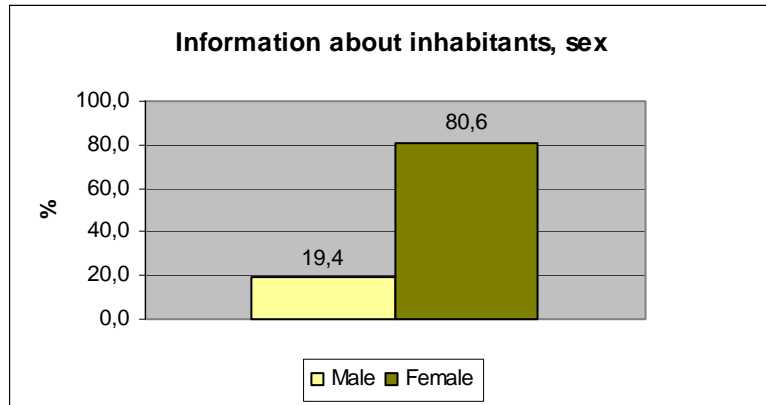


Figure 1. Information about inhabitants, sex.

The average age of participants is about 30-40 years. See the figure 2.

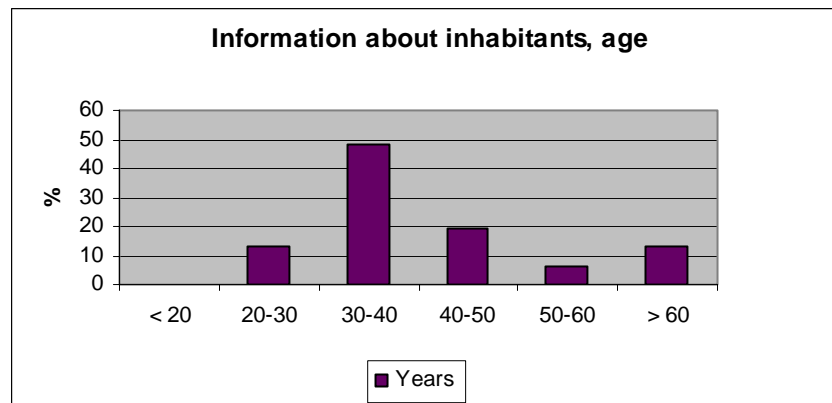


Figure 2. Information about inhabitants, age.

Most of the training courses' participants would like to invest in their houses conditions' improvement (~70%), while a little more than 15% are not sure about it. These uncertainties can be explained by the lack of knowledge about the process and opportunities, as well as difficult financial situation in their families. All this information is reflected on the 3rd picture:

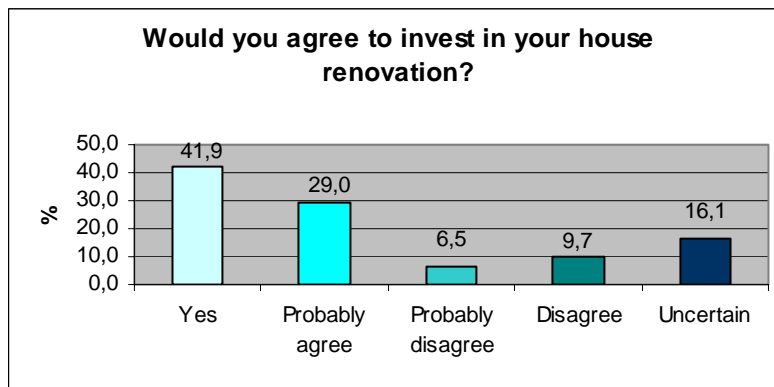


Figure 3. Intention to invest in house renovation.

On the 4th picture only fifth part of participants would like to prepare all documents and to organize house renovation by themselves, i.e. by the chairmen of their HOA. The rest part of inhabitants divided into two groups – those who are not sure about how to organize this process and those who would prefer to hire a company, which occupies in the field of house renovation. This shows a good intention, as the more experts coordinate renovation process, the better results of this process are.

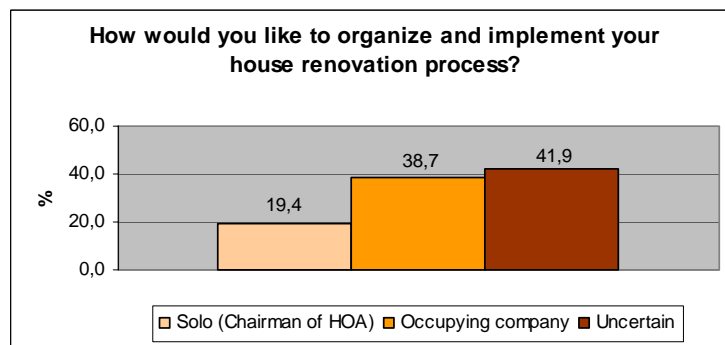


Figure 4. House renovation process organization and implementation

Unfortunately, the questionnaire shows that most of the participants living in dwelling houses are willing to pay less than 50 Lt or 51-100 Lt per month (1€ = 3,4528). The rest part of people are not sure about the amount of money they would afford to pay or are against the renovation process all-out.

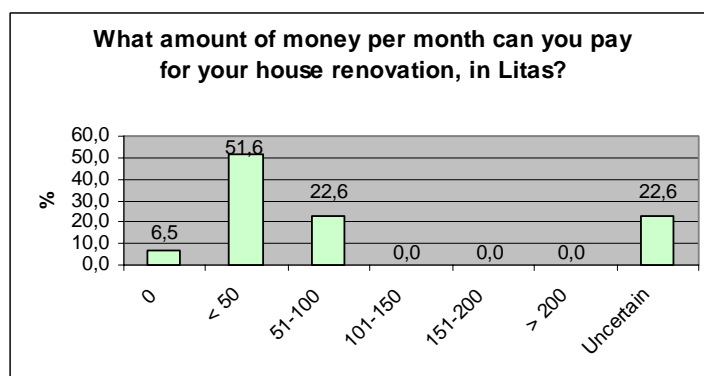


Figure 5. Possible amount of money to pay for house renovation, Lt.

The 6th picture shows that most of participants of NPC training courses do not have much information about bank/fund loans conditions, which is why they couldn't answer exactly what period is more suitable. Still the answers of the rest part of participants show that the period less than 10-20 years would not frighten them. It can be explained by the fact that the amount of money per month is more important indicator for people and if this amount were affordable for the family, they would rather agree to pay it for a longer time.

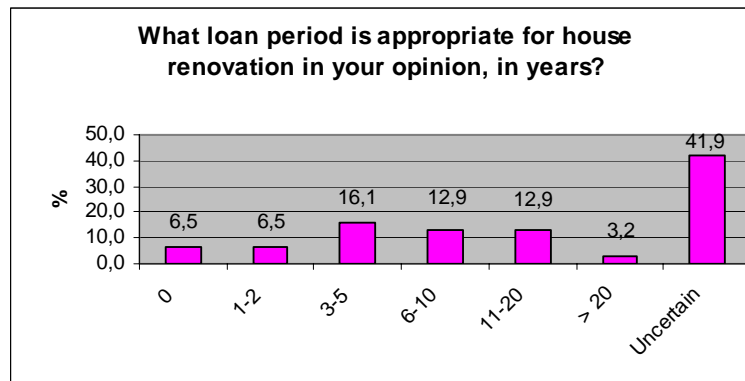


Figure 6. Possible loan period of house renovation, in years.

Expenditures for apartment owners for living in the apartment (water, electricity, gas, heating and other utilities) amount in average to 350 Lt per month. The biggest part of this amount is for payment of heating and electricity. That is why energy and outlay savings scope is the most important for people (~78%). As most of dwelling houses in Vilnius are built more than 20 years ago, building construction renovation is very important issue as well. About one third of participants marked facade renovation problem (please see the 7th picture).

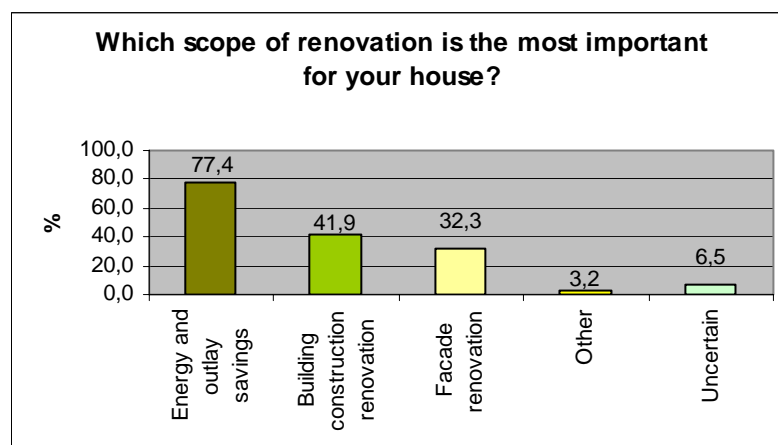


Figure 7. The most important scope of house renovation.

As during the NPC training courses inhabitants of different houses participated the answers to the next question vary very much. The main reason is that each house has its own specific problems, so inhabitants note the most important activities that should be done for their own house. But still the common problems for all houses can be found with reference to the 8th picture. These problems are plumb accessories quality, old windows, bad heating and hot water supply systems, stairs' and balconies' conditions.

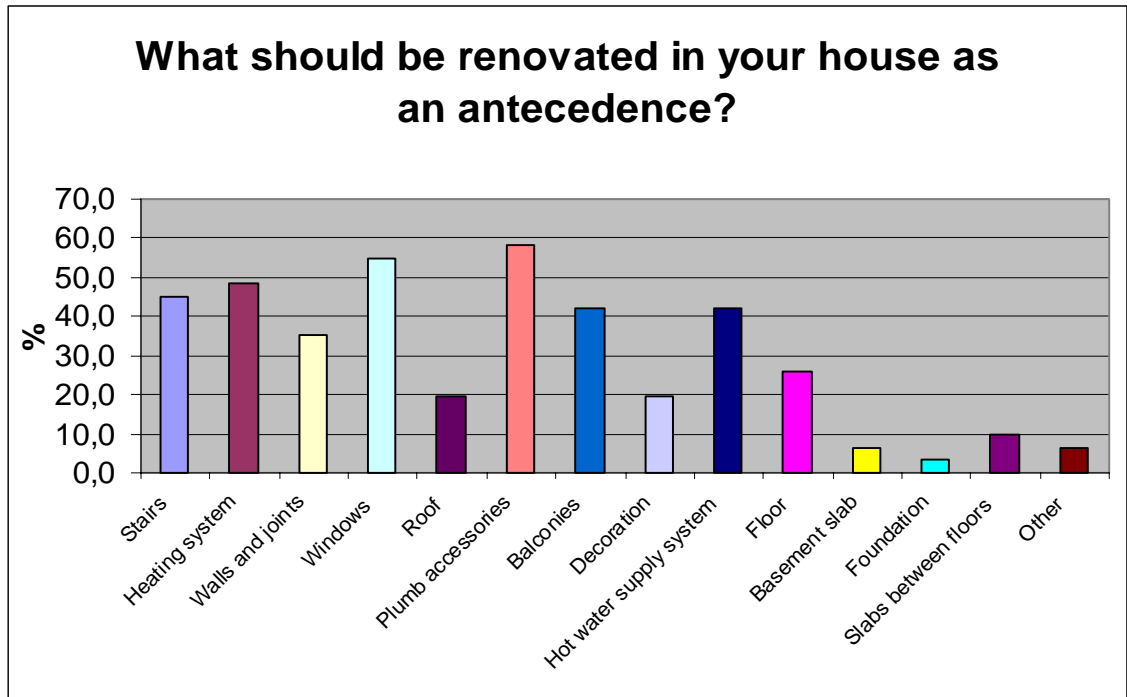


Figure 8. Renovation activities in participants' houses

According to the survey, almost 90% of inhabitants, that participated in the NPC training courses, do not have enough information about companies that offer building renovation services.

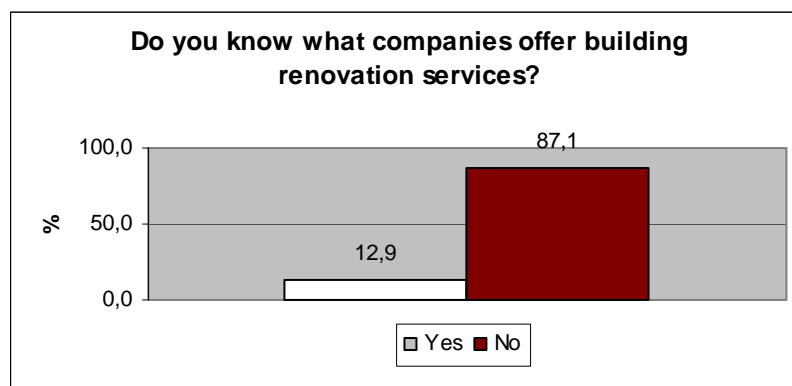


Figure 9. Information about housing renovation possession.

Although about 84% of participants would like to get more information about build renovation process, conditions and companies that could ease this process for inhabitants.

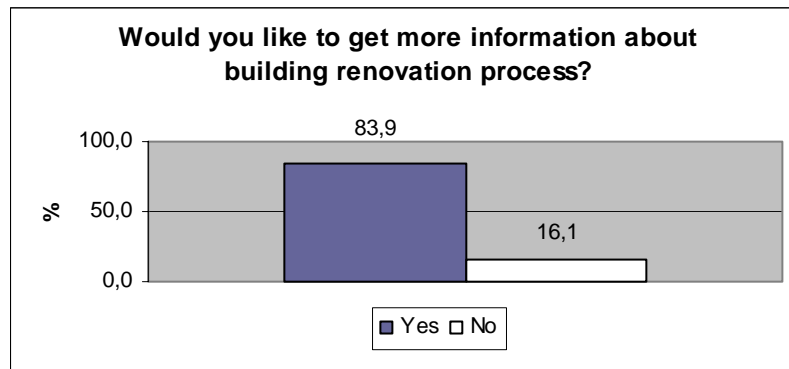


Figure 10. Willingness to get more information about housing renovation.

RESULTS OF THE TRAINING COURSES

The main task of NPC courses was to initiate improvements in residential energy efficiency and to promote rehabilitation of eight multi-flat houses by explaining inhabitants reasons of inefficient energy usage in multi-flat houses nowadays and showing already implemented successful examples in Lithuania and in other countries, as well as the explanation of inhabitants' opportunities in case they are willing to improve situation in their dwelling houses.

After "Energy savings investments, their advantages and opportunities" courses it can be concluded, that such kinds of trainings are necessary in order to change people mentality and to fill lack of information about this field. Actually people in Vilnius are not very active in the process of house modernization and energy efficiency.

In spite of it, some progress can be observed after NPC seminars. In all 8 selected houses there were groups of active people, which were interested in their house renovation and HOAs. Two of eight houses now prepared documents for establishing HOAs. When home owner association is established the decision of house renovation will be following step. Other houses, which are under supervision of NPC company, got information about possibilities for house renovation in Vilnius. Three of such houses already had meetings of inhabitants, where decision to renovate the houses were made. The renovation process in these houses is planned to be finished after one year.

NPC prepared energy performance passports, questionnaire and brochure were very important during training courses, as they helped people to understand such issues as their houses energy efficiency situations in reality, possibilities to change this situation and to express their opinion about renovation topic.

The model of NPC training seminar can be used for other multi-flat houses in Vilnius, as well as other cities in Lithuania. The condition of post Soviet Union buildings are similar all over the Lithuania, that is why this problem is so important in our country and this training seminars are one of the ways, how to stimulated changes in Lithuanian building sector.