

IEE ECOLISH
ENERGY EXPLOITATION AND PERFORMANCE
CONTRACTING FOR LOW INCOME AND SOCIAL HOUSING

Contract No.: EIE/06/049/SI2.447840

Supported by



Work Package 6

Deliverable 6.1 ‘Presentation of the energy, environmental and financial characteristics of the proposed financing scheme’,

Deliverable 6.2 ‘The analysis of the feedback from the occupants and the owners’

Deliverable 6.3 ‘The implementation plans adjusted to the needs and opinions of the occupants and the owners’

Deliverable 6.4 ‘The results of the process of establishing private organised energy exploitation’.

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Executive summary

The 'ECOLISH' project aims to promote energy efficiency in existing low income residential buildings through the organisation, elaboration and evaluation of Energy Exploitation and Performance Contracting on European-wide pilot locations.

The current report is the report for deliverables:

Deliverable 6.1 'Presentation of the energy, environmental and financial characteristics of the proposed financing scheme',

Deliverable 6.2 'The analysis of the feedback from the occupants and the owners',

Deliverable 6.3 'The implementation plans adjusted to the needs and opinions of the occupants and the owners' and

Deliverable 6.4 'The results of the process of establishing private organised energy exploitation'.

Objective of WP6 is to present the technical and financial characteristics of the proposed interventions to the building owners and occupants and get their feedback. Finally the implementation plans are adapted to fit the best possible performance.

In all four pilot locations, the proposed energy and financial scheme within the ECOLISH project was presented to the occupants of the pilot locations through a series of meetings. The meetings were attended by a number of inhabitants, representatives of the ESCOs companies, the Municipalities and the Universities. All meetings were carried out in the native languages. Although in the beginning of the ECOLISH project most of the occupants in all pilot locations were quite suspicious about the profit of the project, at the end a big number of them were positive on the Energy Performance Contracting and were convinced on the benefit of retrofitting their flats.

The ESCOs involved in the ECOLISH project are: Techem (for Pieriki), ESSENT (for Heerlen) and Sun Energy Baltic (for Ogre). From a local/national point of view, the main interest for the ECOLISH participating ESCOs companies is the financial parameter, and finally the signing of an Energy Performance Contracting with the pilot locations. At an international level, the ESCOs companies gain from the exchange of information and knowledge among the other companies. In the case of Hungary where no ESCO was involved, ESSENT (from the Netherlands) is considering to make an offer for the implementation of the proposed energy measures.

This can be considered as a successful outcome of the ECOLISH project enhancing the added European value of the project.

Finally, at the end of the ECOLISH project the next actions to be expected are:

- Pilot location in Pieriki: Signing of an Energy Performance Contracting, and implementation of the first stage of the retrofitting (installation of heat cost allocators in each flat). Techem takes over the energy management of the blocks. The above is ready to be realised in the next General Assembly when this will be organised by the Building Manager probably within December 2009.
- Pilot location in Ogre: The inhabitants have indicated the main energy-efficiency measures that should be implemented in their housing with intention to improve the current situation. Therefore, a decision should be made on the energy measures to be implemented and ESCO can start preparation of the applications with intention to receive ERDF financing for the houses of its interest. It should be noted that in the case of Ogre, the unexpected financial crisis acted as an inhibitory parameter to the outcome of the project.
- Hungary: The energy measures to be implemented have been agreed. Still, an ESCO company is pending to give an offer for the realization of the measures.

From the above it is shown that within the ECOLISH project, there was successful interaction between the inhabitants, the representatives of the Universities, the municipalities and the ESCOs companies. Some of the difficulties that could not be foreseen at the beginning of the project like as the social status of the inhabitants (age, education) could be partially encountered. However, the most prohibited parameter remains the financial situation of the people that cannot be overcome easily.

Introduction

Within the frames of this Work Package a template was prepared by NKUA and completed by the partners (Heerlen, Pieriki, Ogre municipality and PTE). The template collected information on:

- The presentations of the proposed interventions (energy and financial) to the occupants. How the measures were presented to them, the number and the venue of the meetings, the number of the attendants.
- What was the feedback from the occupants (if they are interested in retrofitting their dwellings and if they are positive on the idea of an ESCO)
- What was the general outcome of the meetings (in terms of the energy retrofitting and the proposed financial scheme) and what should be the next step taking into account all the limitations and feedback from the occupants.
- If the meetings with the occupants were enough and if the procedure is considered understandable and successful
- What was the main interest for the ESCO companies to participate

The template that was completed by the partners is included in the Appendix.

Pilot location in Ogre

Task 6.1 Presentation of the energy, environmental and financial characteristics of the proposed investments to the building owners and occupants.

In the case of the pilot location in Ogre, three main meetings were organized in Ogre with the participation of the inhabitants:

- The first meeting was held on 21.05.2008 in the premises of municipal agency “Malkalne”,
- The second meeting was held on 02.07.2008 in the hall of Ogre Music School,
- The third meeting was held on 02.03.2009 in the hall of Ogre municipality.

Information on the project was presented also in the annual meeting of the house oldies of the multi-apartment houses, which was held in Ogre Culture Centre in 15.10.2009. Representatives of 107 houses from the whole Ogre town attended the meeting.

In addition, information was provided to the oldies of the houses and other visitors at a regular basis during individual meetings in MA "Malkalne".

The following parties attended the meeting in “Malkalne”: house oldies, the project management team, the leadership of municipal agency “Malkalne” and a representative of Riga Technical University Dr.sc.ing. A.Borodinecs



Pictures from the meeting in Malkalne in 21.05.2008

The following parties attended the meeting in the Music School of Ogre: inhabitants, project management team, leadership of municipal agency “Malkalne”, and a representative of Riga Technical University Dr.sc.ing. A.Borodinecs




Pictures from the meeting in the Music Hall in Ogre in 2.07.2008

The following parties attended the meeting in the municipality: inhabitants, house oldies, project management team, and representatives of the Riga Technical University Dr.sc.ing. A.Borodinecs, other lecturers – representatives of PAROC Ltd, thermo-auditing company VEK Ltd, the Ogre municipality, the Mortgage and Land Bank of Latvia



Pictures from the meeting in the municipality of Ogre in 2.03.2009

Intelligent Energy  Europe

ECOLISH


Energy Certification for
Buildings and Low-carbon
District Heating and Cooling

(ECOLISH) (Energijas izmantošanas un pārvaldes līgumi zemu ienākumu un sociālajiem mājokļiem)
sakāsmes, Ogrē, 2009. gada 2. martā

DALĪBNIEKU REĢISTRĀCIJA

n.p.k.	Vārds uzvārds	Adrese	Tel.	Paraksts
1	Vahņa Aaga	Jaunatnava 1a	29511663	
2	Arb. Heinloper	Jaunatnava 3-3	26576478	
3	Mārtiņš Bērnskovs	Tērvālnieks 3-3	29900255	
4	Agne Eglīte	Alūksne 5-4	29288888	
5	Tamārs Meņģiņš	Brīvības pr. 20-25	27451741	
6	Sandra Dreiblāze	Brīvības al. 48	2600506	
7	Māris Ilmārs Raitis	Dobele-18	2725452X	
8	BRUNO LUTER	BRUNO LUTER	27210075	
9	Indulis Baronecs	RTU	26098655	
10	Kristiāna Būziņa	SIA RTU	26323471	

Registration form (1st meeting)











Intelligent Energy  Europe

ECOLISH

Energy Efficiency and
Climate Change
for the World's Poor and Vulnerable

(ECOLISH) (Energijas izmantošanas un pārvaldes līgumi zemu ienākumu un sociāliajiem mājokļiem)
sanāksmes, Ogrē, 2009. gada 2. martā


DALĪBNIEKU REGISTRĀCIJA

n.p.k.	Vārds uzvārds	Adrese	Tel.	Pāraksts
11	Anna Mā	Turkales II	2599000	
12	Melbāne A.	Arctis, Keskēse	60623127	
13	Kersti Pihli	Oja, Līnna p. A5	860 990 06	
14	VICTORS DUPE	OGRE, TURKĀLES - I	2593011	
15	Pēteris Jankovskis	OGRE, TURKĀLES - I	2593005	
16	Valda Kādre	Ogre, Sēnīte i-3	650 23951	
17	Krišs Svaigis	Hilafuļevskas, Bānīte 22	650 22300	
18	Hānā Ertihs	Hilafuļevskas	25936560	
19	Sānā Sēnīte	Oja, Līnna p. A5	26 881790	
20	Čuriga Deje	PĪT. Mācīte	2590000	

Registration form (1st meeting)

n.p.k.	Vārds uzvārds	Adrese	Tel.	Paraksts
1	Rita Ozola	Seimu 1-2	650232954	Rozola
2	Terēzija Dede	Seimu 1-8	65040066	DDede
3	Imara Balodis	Seimkarnes 13-17	26410330	IBalodis
4	Inda Vasiļkova	Seimkarnes 5-3 Cgr	26596139	IVasiļkova
5	Katīna Rindanovska	Seimkarnes 5-3 Cgr	90 44777	KRindanovska
6	AIGARS ROZE	14. Maikalu	50491000	ARoze
7	Čestmīrs Džeps	14. Maikalu	29619000	CDžeps
8	Andrejs Bērmanis	Regu 16		ABermanis
9	Edgars Šašins	Tūrvales 287	26588330	EShašins
10				
11				

Registration form (2nd meeting)

 **ECOLISH** Environment and Social Responsibility

(ECOLISH) (Enerģijas izmantošanas un pārvaldes līgumi zem ienākumi sociālajiem mājokļiem) izstrādāms, Ogrē, 2008. gada 2. jūlijā

DALĪBNIEKU REGISTRĀCIJA

n.p.k.	Vārda uzvārds	Adrese	Tel.	Pakaliski
1	Jānis Balceks	Turaidas nr. 13	26401030	
2	Valija Rāča	Turaidas nr. 1 ^a	29571668	
3	Kāzons Dāmane	Turaidas nr. 1 ^a	26168935	
4	Terēzija Dēde	Sietu 1-1a	65020028	
5	Ilze Dāmanis	Turaidas 9-18	65022085	
6	Gratija Līnate	Turaidas 9-8	5016118	
7	Inguna Jemte	Turaidas 9-9	28880687	
8	Indris Rāzābs	Turaidas 9-9		
9	Gene Adāms	Turaidas 9-23	26000005	

Registration form (3rd meeting)

Task 6.2 Feedback from the occupants

The feedback from the inhabitants was collected through the inhabitants' questioning on the implementation and financing of the energy-efficiency measures, which was done in the pilot area in May 2009 with intention to clarify the occupants' opinion concerning the available possibilities and proposed actions. 238 questionnaires were distributed to the inhabitants of the multi-apartment houses involved; 31 filled-in questionnaires were received and summarised.

In general, the inhabitants are aware of the benefits of the retrofitting and are positive towards making improvements in the existing dwellings. To the question “Would you

wish that there are energy-efficiency improvements implemented in your house, for example, insulation of facade or end walls?” 71% of the respondents answered “Yes”, 29% - “No”. Those who said “No” mentioned as reasons:

- the end or facade walls and in some apartments also the inner walls are already insulated,
- the insulation of the house is worth implementing only after adjusting of the heating mains, heating pipes in the cellar and heating regulation,
- if all the houses will be insulated, it will increase the heating tariffs,
- the apartment is too warm in winter,
- the financial situation in Latvia concerning the labor and salaries doesn't allow to participate financially.

Still to the question “Would you be ready to participate in implementation of energy-efficiency improvements with your co-financing?” 39% have given answer “Yes”, 47% - “No”, 14% - “I don't know”. It means that due to lack of financing and other reasons inhabitants are not very enthusiastic about investing in their housing by themselves and are waiting for support from aside.

One of the question, asked to inhabitants, was: “Would you be ready to participate in implementation of energy-efficiency improvements and to sign energy performance contract, if it doesn't require additional financial contributions from your side?”; 58% answered it with “Yes”, 28% - “No”, 14% - “I don't know”. Those who said “No” mentioned as reasons:

- the information is not sufficient,
- it will be hard to follow the usage of resources and control the actual situation,
- it is too complicated,
- it is hard to survive in the economical crisis,
- unbelieving to the idea.

Those who said “I don't know” mentioned as reasons the necessity for more detailed information and the unclear financial aspects.

When asked to compare different possibilities of financing energy-efficiency measures, 73% of respondents have given preference to the financing scheme combining 3 financial sources - municipality 50%, house accumulations 30%,

inhabitants 20%. Since 2004, the end walls and in some cases the facades are insulated in more than 20 buildings in Ogre town with this financial mechanism, and it is well-known to Ogre inhabitants. The Energy Performance Contracting has been positively evaluated by 27% of the respondents. Support provided by the activity “Improvement of Heat Insulation of Multi-Apartment Residential Buildings” of the ERDF operational programme “Infrastructure and Services” was evaluated as less preferred, as 50% of the costs have to be financed by inhabitants.

Task 6.3 General outcome of meetings – adjustment of final retrofitting plans

The inhabitants have indicated the main energy-efficiency measures that should be implemented in their housing with intention to improve the current situation (arranged according to inhabitants’ preference):

- insulation of roof,
- changing of utilities (water pipes, sewerage, heating system),
- insulations of end walls and facade walls,
- changing of windows in staircases,
- changing of outer doors.

Some inhabitants have mentioned also insulation of the basement, securing of the possibility to regulate the radiators, renewals of external heating mains, cleaning of ventilation system, etc.

The identified financial scheme plans to apply for the currently available EU financing under activity “Improvement of Heat Insulation of Multi-Apartment Residential Buildings” of the ERDF operational programme "Infrastructure and Services" (50%) and to take a credit for the remaining amount (50%). In the case of the involvement of an ESCO the residents are guaranteed, that they will not pay more as in a not-renovated house – thus getting all benefits of the implemented energy efficiency measures for a cost, similar as before, and reducing the inhabitants’ fear of long-term commitments.

Such a scheme is planned to be used as long as the ERDF financing will be available. Afterwards, alternative financial sources (new energy-efficiency improvement programmes, municipal support, etc.) will be searched.

In most cases for receiving financing for energy efficiency improvements in multi-apartment houses, there is a condition that the house has to be taken in the possession

of the flat owners either by giving the management rights to an inhabitants' organisation (society of flat owners or cooperative society of flat owners) or to an authorised person. It concerns also the EU financing under the activity "Improvement of Heat Insulation of Multi-Apartment Residential Buildings" of the ERDF operational programme "Infrastructure and Services". It means that the inhabitants have to consider taking the house in their possession, which brings along also terminating the contractual commitments with the municipal agency "Malkalne". It is a very complicated task, as people are satisfied with the current order and are not willing to take risks and change the safe system to an unknown one. They also have no time and no wish to take additional duties and commitments in maintaining the house, but the most important reason is the lack of money for people. Still, when it will be done, ESCO can start preparation of the applications with intention to receive ERDF financing for the houses of its interest.

Task 6.4 Monitoring and evaluation

The number of meetings was sufficient for giving inhabitants the necessary information presenting and discussing the project aims, the activities and outcomes, the characteristics of the proposed investments, the potential and mechanism of the Energy Performance Contracting, the EU role, and for getting feedback from the inhabitants.

The implemented process is considered understandable to the inhabitants of the pilot-houses. Every apartment was approached by invitation letters to the meetings and questionnaires with explanations on the project tasks and proposed schemes. Inhabitants had a possibility to take part in the meetings; information was provided also via house oldies and direct contacts.

The procedure implemented in the frames of the ECOLISH project was successful. It would have been preferred a higher responsiveness from the side of inhabitants concerning the attendance of the meetings, but also there has to be taken into account that the income level of the inhabitants is very low (in many cases no more than 280 EUR per person) and, besides, a great number of the people in the pilot area are pensioners, who have no big interest about the further condition of their house. The situation is hardened also by the financial and economical crisis in Latvia, due to which many people have lost their jobs, and the salaries (and even the pensions for retired people) are reduced even more. It is psychologically very hard for the people,

as they don't feel safe and are afraid for their future, and they are not very enthusiastic about new proposals and new commitments in such a very difficult period.

As a suggestion for the future, the area of implementing the Energy Performance Contracting should be expanded to larger territories with more houses, having bigger number of apartments.

As ESCO is a business company and, as for every business unit, the main aim of its action is to gain profit, the most important reason for interest from ESCO side is the possibility to earn income in result of energy performance contracting.

Pilot location in Pecsvarad

Task 6.1 Presentation of the energy, environmental and financial characteristics of the proposed investments to the building owners and occupants.

From the beginning of the Ecolish project seven meetings took place. The last meeting, which will be the 8th one, will be held on 7th December 2009. All meetings took place at the Community Center of Pecsvarad.

Meeting 1 : In the first meeting, an introduction of the ECOLISH project was carried out. The meeting was held on 02.18.2007. The following representatives were present:

- Form PTE ,Dr. Zoltan Magyar (vice president of REHVA)
- From Pecsvarad Council, Mihaly Baumann
- From Zengő housing co-operative : Mr. Kösz, Mr. Ressler, Mr. Bánusz, Mr. Katona, Mr. Jéhn, Mrs. Kárpáti, Mr. Resh, Mr. Bedő, Mrs. Papp, Mr. Csatlós, Mr. Marcz, Mr. Feil, Mr. Speigl, Mrs. Szabó, Mr. Váradi, Mr. Mártusz, Mrs. Képes and others.

Meeting 2: The second meeting was held on 09.26.2007. The following representatives were present:

- Form PTE , Zoltan Magyar,
- From Pecsvarad Municipality, Mihaly Baumann
- Head of the housing co-operative: Kösz Laszlo and Ressler Ferenc
- Inhabitants:Mr. Bardos, Mr. Ory, Mr. Schenk, Mr. Nagy, Mrs Schmidt, Mr. Vadasz, Mr. Estok, Mr. Beres , Mr. Bosz, Mrs. Bosz, Mrs Mosonyi, Mrs. Pecs, Mr. Gal, Mrs. Estok, Mr. Muller, Mr. Hosszu, Mr. Acs, Mr. Somogyi,

Mr. Kiss, Mr. Tibenszky, Mr. Sator, Mr. Goncz, Mr. Bacher, Mr. Pecs, Mrs. Kárpáti, Mr. Resh, Mr. Bedő, Mrs. Papp, Mr. Csatlós, Mr. Marcz, Mr. Feil, Mr. Speigl.

Meeting 3: The third meeting was held on 12.11.2007. The following representatives were present:

- Form PTE ,Dr. Zoltan Magyar (vice president of REHVA)
- From Pecsvarad Council, Mihaly Baumann
- From Zengo housing co-operative : Kösz Laszló and Ressler Ferenc

Meeting 4: The fourth meeting was held on 02.13.2008. The following representatives were present:

- Form PTE ,Dr. Zoltan Magyar (vice president of REHVA)
- From Pecsvarad Council, Mihaly Baumann
- Head of the housing co-operative, Zengo: Kösz Laszló and Ressler Ferenc
- 50 55 participants form the inhabitants

Meeting 5: The fifth meeting was held on 04.15.2008. The following representatives were present:

- Form PTE ,Dr. Zoltan Magyar (vice president of REHVA)
- From Pecsvarad Council, Mihaly Baumann
- Head of the housing co-operative: Kösz Laszlo and Ressler Ferenc
- Techem H

Meeting 6: The sixth meeting was held within the period June- July-August 2008.

Social questioning took place in the dwellings of each inhabitant.

Meeting 7: The seventh meeting was held on 11.02.2009. The following representatives were present:

- Form PTE ,Dr. Zoltan Magyar (vice president of REHVA)
- Head of the housing co-operative: Kösz László and Ressler Ferenc
- 65 participants form the inhabitants

Task 6.2 Feedback from the occupants

The inhabitants enjoyed participating in the ECOLISH project.

They were interested in the retrofitting of their apartments with one condition, to be supported financially by the government or the municipality because most of the inhabitants can not afford to spend money on the apartments retrofitting.

The apartment owners (99% of the inhabitants are the flat owners) are motivated in retrofitting their house/dwellings. Some of the inhabitants already made a few important retrofitting; like as replacement of the existing windows with new plastic insulated one, replacement of the existing gas boilers.

The question is how to treat and make unitary solution for the whole house when some dwellings are retrofitted while most of the dwellings are not.

In Hungary the ESCO projects are always related to a product or a service. Independent ESCO in Hungary is not typical; they sell some of their service, for example, TECHEM can only pay the project if in the project there will be a heat allocator. In Pecsvarad each dwelling has individual heating and therefore there is no need for heat allocators.

Task 6.3 General outcome of meetings

a. Energy retrofitting

Each dwelling got the Energy Certificate and the list of those measures which can decrease the energy consumption. Each individual apartment owner can apply for different tenders that would help with the realization of the retrofitting.

b. Financial scheme

The housing co-operative is looking for tender applications and ESCO companies which can execute the retrofitting and remodeling.

Adjustment of final retrofitting plans

Occupants going to decide and agree upon which of the suggested measures will be used, the scale of the retrofitting and to find a proper ESCO company.

Until now there was no ESCO in Pecsvarad, therefore there is a need to be found.

Task 6.4 Monitoring and evaluation

The meetings were enough with the occupants who understood the importance of the retrofitting, communicated with Pecsvarad Municipality, PTU, and with the housing co-operative.

The inhabitants realized the necessity of the retrofitting which would lower their utility bills. According to the social analysis that was carried out in Pecsvarad, the average household spends 20% of their monthly income on energy bills.

The occupants considered the organization of the meetings and the presentations of the measures successful.

The owners of the dwellings would have got financial support from a government founding if the houses were made from concrete. It should be noted that at the beginning of the ECOLISH project there was no legislation made for retrofitting implementation of the concrete made buildings.

In Hungary there was no ESCO company participating in the ECOLISH project. Additionally, the ESCO companies involved in the other countries did not give an offer for the Hungarian location.

Pilot location in Pieria

Task 6.1 Presentation of the energy, environmental and financial characteristics of the proposed investments to the building owners and occupants.

In the Pieria pilot location, no organisation, public or private-organised by the occupants existed in the area of the social housing, responsible either for building subjects or for social subjects. As a result it was difficult to organize meetings inviting all occupants, as nothing like this was organized ever (since 1977 that the blocks were built). For this reason a multilevel approach methodology was adapted; house to house visit, visits for notification of the project, visits for social subjects, visits for technical subjects, organization of special meeting of occupiers, participation in occupants' general assemblies, telephone calls, special letters. Meetings' schedule was based on the bottom-up approach and on private meetings with each occupant, at least in first level, in order to explain all parameters, not only of the ECOLISH project but also of the general legislative framework that govern the overall project's subject. Contacting directly and organizing the occupants concluded to be the best approach. Meetings took place in 8 consequent time periods, starting from 01/02/2008, that the project was notified to the selected pilot location. In more detail:

1. Initial house by house meetings.

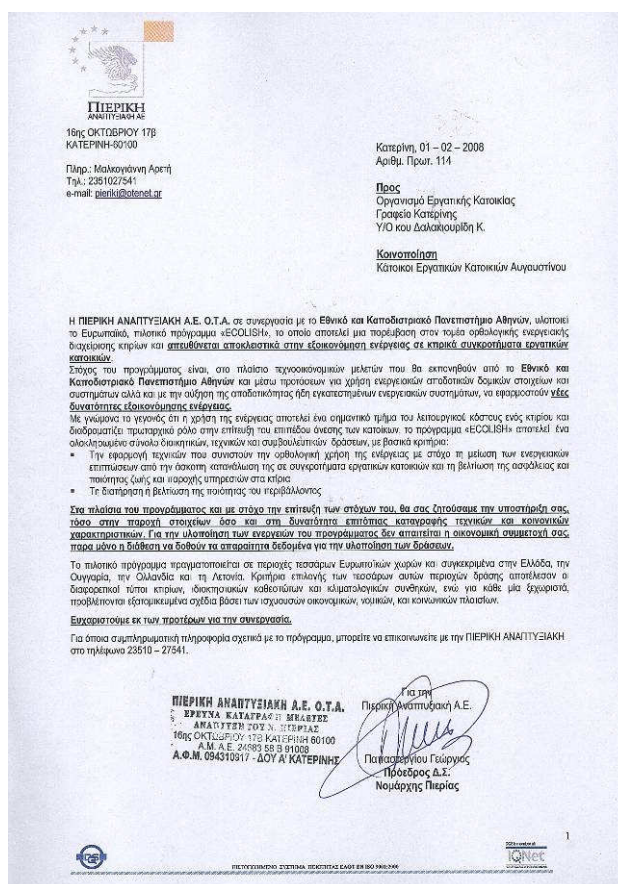
Subject: Initial information regarding ECOLISH and energy efficiency in social housing. Information regarding the involved parties. 10 leaflets on RES and energy efficiency were handed out along with informative official letter. Discussion on organizing the occupants' subjects.

Dates: from 01/02/2008 to 08/02/2008.

Venue: Each occupant house.

Experts present: Two persons from Pieriki (Zapounidis, Malkogianni)

Attendants: 85 occupants.



Official Informative Letter

2. Second level house by house meetings.

Subject: Detailed presentation of ECOLISH project and of actions to be implemented at local level. Information on what it will be required to be done by the occupants.

Total number of visits: 105 visits.

Dates: from 09/02/2008 to 19/02/2008.

Venue: Each occupant house.

Experts present: One person from Pieriki (Malkogianni)

Attendants: 105 occupants.

3. Open meeting with pilot block occupants

Subject: Details on who occupants are proposed to be organized in order to implement ECOLISH project's actions.

Date: 20/02/2008.

Venue: Communal area of pilot location.

Experts present: Two persons from Pieriki (Zapounidis, Malkogianni)

Attendants: 22 occupants.

4. Meetings on social subjects

Subject: Meetings with the occupants on social characteristics of the pilot location. Possibilities of organizing occupants and how were analysed. Social information requested for the relative social analysis was gathered. Duration of each meeting was more than one hour, leading to important feedback on social subjects.

Total number of visits: 28 visits.

Date: from 08/04/2008 to 22/04/2008.

Venue: Each occupant house.

Experts present: Two persons from Pieriki (Zapounidis, Malkogianni)

Attendants: 28 occupants (in some houses more than one occupant was present).

5. Meetings on technical subjects

Subject: Meetings with the occupants on technical characteristics of each apartment, each block and the pilot location in general. Technical information requested for the relative technical analysis was gathered. Duration of each meeting was more than one hour, leading to important feedback on technical problems, along with photographing of important building mal-functions.

Total number of visits: 28 visits.

Date: from 23/04/2008 to 30/04/2008 and 09/08/2008.

Venue: Each occupant house.

Experts present: One person from Pieriki (Malkogianni) and one person from NKUA.

Attendants: 28 occupants (in some houses more than one occupant was present).



Technical meetings photographing

6. Feedback Meetings

Subject: Feedback Meetings with the occupants on organizing subjects. Feedback on the potentialities of organizing the occupants was screened. Details on EEC, EPC and ESCO were initially presented.

Total number of visits: 28 visits.

Date: from 15/01/2009 to 28/02/2009.

Venue: Each occupant house.

Experts present: Two persons from Pieriki (Zapounidis, Malkogianni)

Attendants: 28 occupants (in some houses more than one occupant was present).

7. Telephone information provided Meetings on technical subjects

Subject: In the meantime of the social and technical analysis by the NKUA, Pieriki made telephone calls to the occupants in order to inform them on the progress and on the future presentation of results.

Total number of telephone calls: 85.

Date: from 25/04/2009 to 30/05/2009.

Experts present: One person from Pieriki (Malkogianni)

8. Meeting-presentation of ECOLISH project results-Feedback session

Subject: Final meeting with the occupants in order to:

- i. Present the results of the Analysis materialised by NKUA
- ii. Present the financing opportunities of the proposed measures by TECHEM
- iii. Present the accomplished and future steps by PIERIKI
- iv. Discuss all proposals in order to gather the required feedback for Tasks 6.2 and 6.3

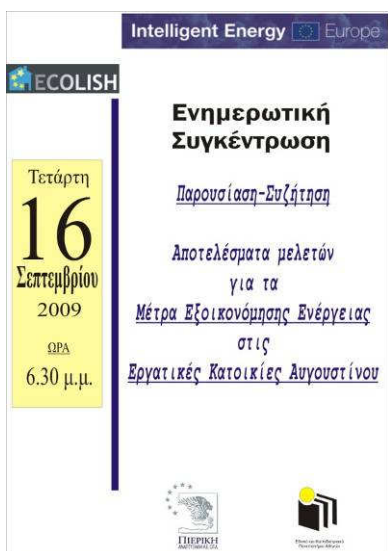
Date: 16/09/2009.

Venue: A local gathering place, just opposite the blocks were selected, as it is their every-day meeting place and they are familiar with it. Door to door information and telephone invitations took place, in combination with posters in the pilot location. Drinks and snacks were offered to all of them, along with presentations of results and actions to be implemented.

Experts present: Two persons from Pieriki (Zapounidis, Malkogianni), one person from NKUA (Farrou) and two persons from TECHEM (Dagiantis and associate).

Attendants: 30 occupants.

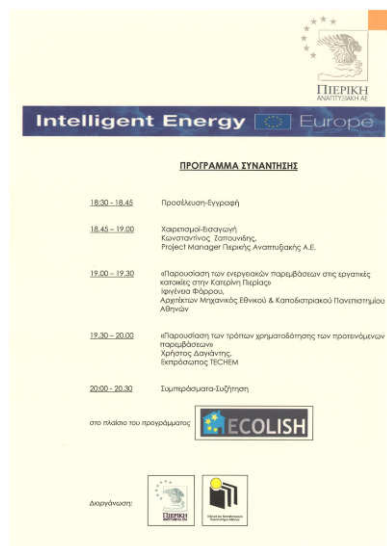
- v. The number of occupants that participated was larger than estimated.
- vi. 30 occupants participated in the presentation meeting.
- vii. Important was the fact that occupants from 16 out of 17 blocks joined the presentation event-mainly building managers. In this way full coverage of the blocks were succeeded.
- viii. 12 occupants of the pilot blocks (simulated) attended the meeting.
- ix. Statistically, 23 men and 7 women attended the meeting.
- x. On the site, it was decided to present the results in a conversation format, followed by the feedback session.
- xi. TECHEM provided installation paradigms.
- xii. Legal support was offered during the event, as described in Task 4.3.



Meeting Poster



Meeting Poster



Meeting Agenda



Meeting Attendants



Meeting Attendants



Meeting Presenters

Task 6.2 Feedback from the occupants

Depending on the phase of the project and on the progress of organising the occupants process, different feedback was received by the occupants. Feedback could be separated in two groups, Initial and Final.

Initial Feedback

Occupants were rather unaware of the processes described in the ECOLISH project. Moreover, they provided Pieriki with an initial working framework that trust had to be cultivated between them and Pieriki, since such work was not implemented before in such a location. Especially after meetings 1 to 5 described above, the following feedback was received:

- No trust to Organisation of Social Housing existed among the occupants, since the actual cost spent for their apartments were even double the one predetermined (the lack of trust has to do with the central authority and not the local office).
- All of the occupants were still suspicious on the subject of “why someone wants to do something like that for free?”

Nevertheless, the following results were gathered:

- Initial acceptance to support regarding technical and social analysis was expressed unanimously.
- Funding the interventions was out of the question!
- Even saying that the Organisation of Social Housing could support the funding was creating frustration.
- Difficult to explain Energy Performance Contracting, some misunderstood that we were an installation company that want to materialize the proposed interventions. No input by the partner in charge of this specific subject.
- Difficulties on understanding the concept due to:
 - Low educational level
 - Age above 60
 - Low income workers and pensioners

Feedback led to the successful trust development between the researchers and experts of Pieriki and the occupants. In such way, the main difficulty that the occupants had, to invite an unknown person (researcher) in their own house, have been surpassed. Finally, the following feedback information have been noted and surpassed, as proved by the final results of the project:

- Ignorance of the role of Pieriki Anaptixiaki.
- Suspicion about the researchers' purposes and the potential future benefits for them.
- Negative attitude against anyone who might have any interference with the construction of the buildings due to the low quality of the buildings.
- Finally, due to the low educational level of the occupants, the researchers had difficulties to explain the procedure and the purposes of the project.

Final Feedback

Initial feedback comments were more general, and answered during the project duration. On the other hand, final feedback comments were more technical and required immense answers, given during meetings 6 to 8, and especially the meeting No. 8. The following feedback comments were received, answered in full by experts of Pieriki, NKUA and TECHEM:

- Cost per intervention is calculated?
- How the central heating system will work after the interventions?
- System alternation is required?
- What are the differences with autonomous heating per apartment?
- What is the cost for the heat cost allocators presented?
- The old pipes have to be removed?
- How the heat cost allocator and the system installed works?
- Does someone have to enter each apartment in order to calculate energy consumption?
- Heat cost allocators have to be installed in all heating radiators?
- What is the guarantee?
- What is the minimum energy saving?
- Damages will be done to the apartments?
- Existing fuel (oil) will be used?
- What it will be paid when the apartments will be empty or not-used for a long period?

Feedback comments were made clear to occupants, and as a result Pieriki, NKUA and TECHEM will be invited in the first General Assembly of the new period where decisions on heating technologies subjects will be discussed.

Although in the beginning occupants were negative regarding retrofitting their dwellings, the step by step approach adapted after the feedback received led to the result that occupants are interested in retrofitting their dwellings, nevertheless the cost is an important skepticism factor. Moreover, some of them have made individual interventions, mainly related to the indoor environment, such as double glazing, A/C split units, covering their own expenses. This proves the, in general, interest to retrofit their dwellings, nevertheless cost support, especially due to the general crisis situation, is more than essential. Finally, the technical analysis results of NKUA were accepted as proposals, especially as they were provided in a step by step format and cost analysis.

As a result to the aforementioned, the idea of an ESCO was not “banned” in the end. Although in the first meetings with the occupants such a subject was creating negative reactions, in the end, and after the relative explanations by TECHEM (the ESCO partner at local level) their reactions were smoothed. Finally, discussions on how an ESCO will operate the established operating system were elaborated, leading to the result that an ESCO could offer them important support in their retrofitting decisions.

Task 6.3 General outcome of meetings

General outcome of the meetings organized and executed in the pilot location is that occupants are receptive to support. Although they are negative in general regarding external support, mainly due to the fact that no support was offered to them by no one until now, when explaining in detail the scope of the support to be offered their hesitation was overcome. Initial feedback described in the above paragraph was processed and solution processes were adapted in order to solve all faced situations:

- Ignorance of the role of Pieriki Anaptixiaki. *Now all occupants know the development role of Pieriki Anaptixiaki.*
- Suspicion about the researchers' purposes and the potential future benefits for them. *Researchers are being invited in occupants houses, clear scope of Pieriki and ECOLISH project have been understood by occupants.*
- Negative attitude against anyone who might have any interference with the construction of the buildings due to the low quality of the buildings. *The simplified financial framework of ECOLISH project has been understood by occupants.*
- Finally, due to the low educational level of the occupants, the researchers had difficulties to explain the procedure and the purposes of the project. *Every day vocabulary explained everything easily, terms as heat cost allocators have been understood by occupants.*

In conclusion occupants require support, not only in terms of energy efficiency but also in terms of social and surroundings subjects. Since such support was not offered due to the common practice in Greece, it was offered to them in the framework of ECOLISH project, by Pieriki (1st level) and NKUA, Techem (2nd level).

In terms of the energy retrofitting the following energy retrofitting interventions is feasible to be carried out, by partner Techem:

1. Upgrade the existing building installations. This will include:

- Replacement of the existing boiler (efficiency around 65%) with high efficient condensing boiler (efficiency of 90%).
- Insulation of the pipes, in order to minimise the heat losses
- Conversion of the central heating system to an autonomous system. This will be realised with installation of thermostats for heating to each unit (radiators) in every

flat. In this way occupants will operate the systems as long as they wish and will be able to adjust the set points according to their needs.

- Installation of heat cost allocators in each dwelling. In this way occupants will have the feeling of their energy consumption.
- The energy management of the blocks
- The operation, maintenance and repair of the installations

2. Upgrade the building envelope. This will include:

- Installation of external insulation on the roof of the blocks in order to reduce the heating loads during the winter period and improve the thermal comfort levels.
- Use of external paints on the roof and walls with high solar reflectance in order to reduce the solar gains thus cooling loads during the summer months.

In terms of financial scheme to be used is energy performance contracting proposal between partner Techem Company (ESCO) and the occupants of the blocks. The main idea of contracting Techem, is the energy maintenance of the blocks by Techem and the upgrade of the buildings systems. In order to realise the project, Techem will carry out sensitivity analysis concerning the energy profile of the case study and the needs of the occupants regarding cooling, heating and hot water.

Adjustment of final retrofitting plan

Next step to be carried out is the signing of the contract between the ESCO and the building. For this reason the decision of the blocks' General Assembly is required, as described in WP3. Since the General Assembly will decide to sign the contract with the ESCO, the Building Manager will be authorized to sign the contract, whilst the General Assembly decision will be part of the contract to be signed. Then the ESCO will have the right to implement the interventions decided in the General Assembly of the blocks.

In more detail, based on the consent achieved, the General Assembly authorizes the Building Manager and the services company to constitute the private agreement of the building, which content the General Assembly has approved orally. The Private Agreement should include all the related subjects (energy calculations, costs distribution, etc.). As a result, the only legally based framework for organizing legally the Occupants for the actions of ECOLISH project is the combination of the General Assembly of the joint-ownership along with the energy performance contract

(building management contract) to be signed with a third party as ECOLISH partner TECHEM.

From the final meeting and the occupant's feedback it was clear that the retrofitting will take place in two stages:

First stage of the retrofitting: At a first stage the retrofitting will include the installation of heat cost allocators and the conversion of each dwelling to an autonomous heating unit. Techem will take over the energy management of the blocks. The inhabitants will pay their bills to Techem who will be responsible for the collection and the monitoring of the energy consumption of each flat. This will be implemented as soon as the energy performance contracting is signed between the occupants and Techem

Second stage of the retrofitting: At a second stage all the other energy measures that are examined will be implemented. These include the replacement of the existing boilers, the insulation of the pipes, the installation of external roof insulation, and the paintings of the blocks externally with paints with high solar reflectance.

Task 6.4 Monitoring and evaluation

Meetings with the occupants could be described as more than enough, since in Pieria pilot location organizing activities started from zero point and, moreover, more than the meetings described in the Grant Agreement were materialized. Pieriki's presence at the pilot location was continuous during the project duration, and since the same experts were responsible for the actions to take place at the pilot locations, familiarity has been developed. Pieriki's expert provided support not only in energy efficiency but also in social subjects. Thus, due to lack of responsibilities, many social aspects could not be faced. Occupants were facing Pieriki's expert not only as the project's implementers but also as the individuals with which technical and social aspects could be discussed, leading at least to rationalisation of situations.

Nevertheless, the process was not so easy to be understandable by the occupants. Due to their ignorance and medium level of education, the processes of the ECOLISH project were difficult to be explained. For this reason, Pieriki's experts in strong collaboration with NKUA and TECHEM have simplified the concept of the project's processes. Following the bottom-up approach and based on the feedback of the numerous meetings with the occupants, the real questions have derived and so the processes were described in detail and as simplified as possible, in order to achieve

the maximum comprehension. In the end, the occupants have understood what an ESCO could offer them and what is the existing legal framework in Greece. Participation of ESCO to meetings helped the comprehension of the process, since they could provide immense answers to the feedback provided.

The procedure, as described in the ECOLISH project Grant Agreement, was adapted in full. Moreover, the bottom-up approach methodology was adapted in our case-study since no organizing framework existed before the implementation of the project. In such, the bottom-up approach actions were inserted in every step of the project; selection of the pilot location, approach of the occupants, organization of meeting, presentation of the measures and ESCOs. As a result, the procedure followed was successful at local level taking into consideration the limited existing level of organizing. An important success factor was the adaption of the local characteristics of the selected pilot location and the national legal framework, which have to be examined in detail. The adaption of the local characteristics in the procedure described in the Grant Agreement led to the success of the project's local actions and to the definition of the procedure as successful. Initial steps of the procedure could be avoided; nevertheless they reassured the legal coverage and communication actions of all possible involved parties (outside the project).

The ESCO's interest (Techem) to participate in the project was multi-level, lying in three different levels: local, national and European. At local level ESCOs have the opportunity to contact the pilot location and with the support of the local actor to discuss with the occupants the potentiality of signing a local contract. More detailed examination and analysis of the location was offered, since local and academic partners were involved in the pilot location process. Such results could act as results' input to further contracts. At national level, although the existing legal framework and the market requests were known to ESCOs, coding of the existing framework could provide an important tool to them. At European level, exchange of knowledge between similar companies is always an important toll of knowledge development. Moreover, the local conditions in different countries could also provide important feedback to all participants ESCOs.

Conclusions

In all four pilot locations, the proposed energy and financial interventions within the ECOLISH project were presented to the occupants of the pilot locations through a series of meetings. The meetings were attended by a number of inhabitants, representatives of the ESCOs companies, the municipalities and the Universities. All meetings were carried out in the native languages.

The acceptance of the proposed measures was influenced by the social and financial status of the occupants. The following parameters act as limitations to the ECOLISH project:

- A shared problem for all pilot locations is the number of residents, who don't care about their housing situation at all. They are not open to improvements of the housing, and this is a problem in the case of blocks where there are a lot of ownerships and in order to proceed with retrofitting the condensation of all owners is necessary.
- In the pilot location of Riga and Pieria there are many empty houses because the younger residents have moved to the cities. Also the remaining inhabitants are quite old (even older than 70 years old) and many of them are not interested in the retrofitting of their housing.
- In Pieria there were difficulties to explain the Energy Performance Contracting to the inhabitants due to the low education level. Also, there is very limited experience in practice as there are no many realised projects by ESCOs companies and it was difficult for the inhabitants to understand the process .
- In Ogre, due to the financial and economic crisis many people have lost their jobs. Therefore, the retrofitting of their housing is not a priority.
- In all pilot locations, the possibility for the inhabitants to participate to the funding of the energy retrofitting is out of question due to their restricted financial situation.
- In many flats of all pilot locations, the owners have proceeded with partial retrofitting. A question is arisen concerning the uniformity of the flats that have been already partially retrofitted and those that will be renovated in the case of an Energy Performance Contracting.
- Apart from the case of Hungary, in all pilot locations there was an ESCO involved from the beginning of the ECOLISH project. In Hungary there was no ESCO

company involved, therefore no discussions regarding the implementation of the plans were carried out.

- Evaluation of the process that was followed within the ECOLISH project showed that the number of meetings was enough in all the pilot locations for the presentations of the energy and financial measures. Although at the beginning of the project, most of the inhabitants were quite suspicious and reluctant about the Energy Performance Contracting (Pieria, Latvia, Hungary) and the benefit they would gain, at the end, a big number of inhabitants were positive in the idea and they were convinced about the necessity of retrofitting their flats.
- The ESCOs involved in the ECOLISH project are: Techem (for Pieriki), ESSENT (for Heerlen) and Sun Energy Baltic (for Ogre). From a local/national point of view, the main interest for the ESCOs companies that participate in the ECOLISH project is the financial parameter, and the signing of an Energy Performance Contracting with the pilot locations. At an international level, the ESCOs companies gain from the exchange of information and knowledge among these. In the case of Hungary where no ESCO was involved, ESSENT (from the Netherlands) is considering to make an offer for the realisation of the proposed energy measures. This can be considered as a successful outcome of the European value of the ECOLISH project.

The next step for the pilot locations are:

- Pieriki: Signing the Energy Performance Contracting and implementing the first stage of the retrofitting (installation of heat cost allocators in each flat) and energy management by Techem. The above would be realised in the next General Assembly when this will be organised by the Building Manager probably within December 2009.
- Ogre: The inhabitants have indicated the main energy-efficiency measures that should be implemented in their housing with intention to improve the current situation. Therefore, a decision should be made on the energy measures to be implemented and ESCO can start preparation of the applications with intention to receive ERDF financing for the houses of its interest.
- Hungary: The energy measures to be implemented have been agreed. Still, an ESCO company is pending to give an offer for the realization of the measures.

Finally a general outcome of the project is that the ESCOs would have a more secure profit if the implementation of the measures would target to larger territories with younger population. Also the financial status of the target group has a severe impact on the progress of the projects as, for people who experience a financial crisis and do not have a job, the energy retrofitting of their housing is not a priority.

Appendix

ECOLISH Template for Work Package 6

Task 6.1

1. Please describe how many meetings took place with the occupants. (Please give the date and venue of the meetings)
2. Who were present/ which experts were invited. Please provide a list of the attendants if available .
3. Please provide any characteristics fotos (1-2) of the meetings if available.

Task 6.2

1. What was the feedback from the occupants?
2. Are they interested in retrofitting their dwellings?
3. Are they positive in the idea of an ESCO?

Task 6.3

1. What was the general outcome of the meetings? In your pilot location, what is feasible to be carried out in terms of:
 - a. energy retrofitting
 - b. financial scheme to be used
2. What is the next step to be carried out for both the occupants and the ESCO?

Task 6.4

1. Were the meetings enough with the occupants?
2. Was the process understandable by the occupants?
3. Do you think the procedure that was followed within the ECOLISH project (selection of pilot location, approach of the occupants, organization of meetings, presentation of the measures and ESCO) was successful?
4. What was the main interest for the ESCOs to participate in this project?

IEE ECOLISH
ENERGY EXPLOITATION AND PERFORMANCE
CONTRACTING FOR LOW INCOME AND SOCIAL HOUSING

Contract No.: EIE/06/049/SI2.447840

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Work Package 6

Deliverable 6.1 ‘Presentation of the energy, environmental and financial characteristics of the proposed financing scheme’,

Deliverable 6.2 ‘The analysis of the feedback from the occupants and the owners’

Deliverable 6.3 ‘The implementation plans adjusted to the needs and opinions of the occupants and the owners’

Deliverable 6.4 ‘The results of the process of establishing private organised energy exploitation’.

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Executive summary

The 'ECOLISH' project aims to promote energy efficiency in existing low income residential buildings through the organisation, elaboration and evaluation of Energy Exploitation and Performance Contracting on European-wide pilot locations.

The current report is the report for deliverables:

Deliverable 6.1 'Presentation of the energy, environmental and financial characteristics of the proposed financing scheme',

Deliverable 6.2 'The analysis of the feedback from the occupants and the owners',

Deliverable 6.3 'The implementation plans adjusted to the needs and opinions of the occupants and the owners' and

Deliverable 6.4 'The results of the process of establishing private organised energy exploitation'.

Objective of WP6 is to present the technical and financial characteristics of the proposed interventions to the building owners and occupants and get their feedback. Finally the implementation plans are adapted to fit the best possible performance.

In all four pilot locations, the proposed energy and financial scheme within the ECOLISH project was presented to the occupants of the pilot locations through a series of meetings. The meetings were attended by a number of inhabitants, representatives of the ESCOs companies, the Municipalities and the Universities. All meetings were carried out in the native languages. Although in the beginning of the ECOLISH project most of the occupants in all pilot locations were quite suspicious about the profit of the project, at the end a big number of them were positive on the Energy Performance Contracting and were convinced on the benefit of retrofitting their flats.

The ESCOs involved in the ECOLISH project are: Techem (for Pieriki), ESSENT (for Heerlen) and Sun Energy Baltic (for Ogre). From a local/national point of view, the main interest for the ECOLISH participating ESCOs companies is the financial parameter, and finally the signing of an Energy Performance Contracting with the pilot locations. At an international level, the ESCOs companies gain from the exchange of information and knowledge among the other companies. In the case of Hungary where no ESCO was involved, ESSENT (from the Netherlands) is considering to make an offer for the implementation of the proposed energy measures.

This can be considered as a successful outcome of the ECOLISH project enhancing the added European value of the project.

Finally, at the end of the ECOLISH project the next actions to be expected are:

- Pilot location in Pieriki: Signing of an Energy Performance Contracting, and implementation of the first stage of the retrofitting (installation of heat cost allocators in each flat). Techem takes over the energy management of the blocks. The above is ready to be realised in the next General Assembly when this will be organised by the Building Manager probably within December 2009.
- Pilot location in Ogre: The inhabitants have indicated the main energy-efficiency measures that should be implemented in their housing with intention to improve the current situation. Therefore, a decision should be made on the energy measures to be implemented and ESCO can start preparation of the applications with intention to receive ERDF financing for the houses of its interest. It should be noted that in the case of Ogre, the unexpected financial crisis acted as an inhibitory parameter to the outcome of the project.
- Hungary: The energy measures to be implemented have been agreed. Still, an ESCO company is pending to give an offer for the realization of the measures.

From the above it is shown that within the ECOLISH project, there was successful interaction between the inhabitants, the representatives of the Universities, the municipalities and the ESCOs companies. Some of the difficulties that could not be foreseen at the beginning of the project like as the social status of the inhabitants (age, education) could be partially encountered. However, the most prohibited parameter remains the financial situation of the people that cannot be overcome easily.

Introduction

Within the frames of this Work Package a template was prepared by NKUA and completed by the partners (Heerlen, Pieriki, Ogre municipality and PTE). The template collected information on:

- The presentations of the proposed interventions (energy and financial) to the occupants. How the measures were presented to them, the number and the venue of the meetings, the number of the attendants.
- What was the feedback from the occupants (if they are interested in retrofitting their dwellings and if they are positive on the idea of an ESCO)
- What was the general outcome of the meetings (in terms of the energy retrofitting and the proposed financial scheme) and what should be the next step taking into account all the limitations and feedback from the occupants.
- If the meetings with the occupants were enough and if the procedure is considered understandable and successful
- What was the main interest for the ESCO companies to participate

The template that was completed by the partners is included in the Appendix.

Pilot location in Ogre

Task 6.1 Presentation of the energy, environmental and financial characteristics of the proposed investments to the building owners and occupants.

In the case of the pilot location in Ogre, three main meetings were organized in Ogre with the participation of the inhabitants:

- The first meeting was held on 21.05.2008 in the premises of municipal agency “Malkalne”,
- The second meeting was held on 02.07.2008 in the hall of Ogre Music School,
- The third meeting was held on 02.03.2009 in the hall of Ogre municipality.

Information on the project was presented also in the annual meeting of the house oldies of the multi-apartment houses, which was held in Ogre Culture Centre in 15.10.2009. Representatives of 107 houses from the whole Ogre town attended the meeting.

In addition, information was provided to the oldies of the houses and other visitors at a regular basis during individual meetings in MA "Malkalne".

The following parties attended the meeting in “Malkalne”: house oldies, the project management team, the leadership of municipal agency “Malkalne” and a representative of Riga Technical University Dr.sc.ing. A.Borodinecs



Pictures from the meeting in Malkalne in 21.05.2008

The following parties attended the meeting in the Music School of Ogre: inhabitants, project management team, leadership of municipal agency “Malkalne”, and a representative of Riga Technical University Dr.sc.ing. A.Borodinecs



Pictures from the meeting in the Music Hall in Ogre in 2.07.2008

The following parties attended the meeting in the municipality: inhabitants, house oldies, project management team, and representatives of the Riga Technical University Dr.sc.ing. A.Borodinecs, other lecturers – representatives of PAROC Ltd, thermo-auditing company VEK Ltd, the Ogre municipality, the Mortgage and Land Bank of Latvia



Pictures from the meeting in the municipality of Ogre in 2.03.2009

Intelligent Energy Europe
ECOLISH Energy, Capitalisation and Implementation of Energy Efficiency in Buildings and Social Housing

(ECOLISH) (Enerģijas izmantošanas un pārvaldes līgumi zemu ienākumu un sociālajiem mājokļiem) sanāksmes, Ogrē, 2009. gada 2. martā

DALĪBNIEKU REGISTRĀCIJA

n.p.k.	Vārds uzvārds	Adrese	Tel.	Paraksts
1	Valdis Mačis	Iluzānu iela 1a	26511663	[Signature]
2	Valdis Mačis	Turvalde 3-3	26511663	[Signature]
3	Marina Šimševiča	Turvalde 3-3	29400255	[Signature]
4	Jana Spilka	Maizbūle 16-4	29220004	[Signature]
5	Jānis Mačis	Iluzānu iela 1a-25	26511663	[Signature]
6	Sandra Bērziņa	Diņa al. 18	3605056	[Signature]
7	Valdis Mačis	Dobele 18	27244722	[Signature]
8	Valdis Mačis	Diņa al. 18	3605056	[Signature]
9	Valdis Mačis	RTU	26098055	[Signature]
10	Kristiņa Zariņa	SIA VEE	14321191	[Signature]

Registration form (1st meeting)

Intelligent Energy Europe
ECOLISH Energy, Capitalisation and Implementation of Energy Efficiency in Buildings and Social Housing

(ECOLISH) (Enerģijas izmantošanas un pārvaldes līgumi zemu ienākumu un sociālajiem mājokļiem) sanāksmes, Ogrē, 2009. gada 2. martā

DALĪBNIEKU REGISTRĀCIJA

n.p.k.	Vārds uzvārds	Adrese	Tel.	Paraksts
11	Anna Mačis	Turvalde 11	26511663	[Signature]
12	Valdis Mačis	Maizbūle 16-4	29220004	[Signature]
13	Valdis Mačis	Diņa al. 18	3605056	[Signature]
14	Viktors Mačis	Ogre, Turvalde 1	26511663	[Signature]
15	Gita Mačis	Ogre, Turvalde 1	26511663	[Signature]
16	Valdis Mačis	Ogre, Diņa 1-2	65023951	[Signature]
17	Valdis Mačis	Hipotēku banka, Ogrē 12	65023951	[Signature]
18	Valdis Mačis	Hipotēku banka	23806580	[Signature]
19	Valdis Mačis	Ogre, Turvalde 11	26511663	[Signature]
20	Valdis Mačis	Ogre, Turvalde 11	26511663	[Signature]

Registration form (1st meeting)

(ECOLISH) (Enerģijas izmantošanas un pārvaldes līgumi zemu ienākumu un sociālajiem mājokļiem) sanāksmes, Ogrē, 2008. gada 21. maijs

DALĪBNIEKU REGISTRĀCIJA

n.p.k.	Vārds uzvārds	Adrese	Tel.	Paraksts
1	Rita Šimševiča	Seiņu 1-2	65023951	[Signature]
2	Valdis Mačis	Seiņu 1-2	65023951	[Signature]
3	Valdis Mačis	Turvalde 13-17	26410350	[Signature]
4	Valdis Mačis	Turvalde 3-3	26511663	[Signature]
5	Valdis Mačis	Turvalde 3-3	26511663	[Signature]
6	Valdis Mačis	Maizbūle 16-4	29220004	[Signature]
7	Valdis Mačis	Maizbūle 16-4	29220004	[Signature]
8	Valdis Mačis	Diņa 18	3605056	[Signature]
9	Valdis Mačis	Turvalde 13-17	26410350	[Signature]
10				
11				

Registration form (2nd meeting)

(ECOLISH) (Enerģijas izmantošanas un pārvaldes līgumi zemu ienākumu un sociālajiem mājokļiem) sanāksmes, Ogrē, 2008. gada 2. jūlijs

DALĪBNIEKU REGISTRĀCIJA

n.p.k.	Vārds uzvārds	Adrese	Tel.	Paraksts
1	Valdis Mačis	Turvalde 13	26410350	[Signature]
2	Valdis Mačis	Iluzānu iela 1a	26511663	[Signature]
3	Valdis Mačis	Iluzānu iela 1a	26511663	[Signature]
4	Valdis Mačis	Seiņu 1-2	65023951	[Signature]
5	Valdis Mačis	Turvalde 9-18	65023951	[Signature]
6	Valdis Mačis	Turvalde 9-18	65023951	[Signature]
7	Valdis Mačis	Turvalde 9-18	65023951	[Signature]
8	Valdis Mačis	Turvalde 9-18	65023951	[Signature]
9	Valdis Mačis	Turvalde 9-18	65023951	[Signature]

Registration form (3rd meeting)

Task 6.2 Feedback from the occupants

The feedback from the inhabitants was collected through the inhabitants' questioning on the implementation and financing of the energy-efficiency measures, which was done in the pilot area in May 2009 with intention to clarify the occupants' opinion concerning the available possibilities and proposed actions. 238 questionnaires were distributed to the inhabitants of the multi-apartment houses involved; 31 filled-in questionnaires were received and summarised.

In general, the inhabitants are aware of the benefits of the retrofitting and are positive towards making improvements in the existing dwellings. To the question "Would you

wish that there are energy-efficiency improvements implemented in your house, for example, insulation of facade or end walls?" 71% of the respondents answered "Yes", 29% - "No". Those who said "No" mentioned as reasons:

- the end or facade walls and in some apartments also the inner walls are already insulated,
- the insulation of the house is worth implementing only after adjusting of the heating mains, heating pipes in the cellar and heating regulation,
- if all the houses will be insulated, it will increase the heating tariffs,
- the apartment is too warm in winter,
- the financial situation in Latvia concerning the labor and salaries doesn't allow to participate financially.

Still to the question "Would you be ready to participate in implementation of energy-efficiency improvements with your co-financing?" 39% have given answer "Yes", 47% - "No", 14% - "I don't know". It means that due to lack of financing and other reasons inhabitants are not very enthusiastic about investing in their housing by themselves and are waiting for support from aside.

One of the question, asked to inhabitants, was: "Would you be ready to participate in implementation of energy-efficiency improvements and to sign energy performance contract, if it doesn't require additional financial contributions from your side?"; 58% answered it with "Yes", 28% - "No", 14% - "I don't know". Those who said "No" mentioned as reasons:

- the information is not sufficient,
- it will be hard to follow the usage of resources and control the actual situation,
- it is too complicated,
- it is hard to survive in the economical crisis,
- unbelieving to the idea.

Those who said "I don't know" mentioned as reasons the necessity for more detailed information and the unclear financial aspects.

When asked to compare different possibilities of financing energy-efficiency measures, 73% of respondents have given preference to the financing scheme combining 3 financial sources - municipality 50%, house accumulations 30%,

inhabitants 20%. Since 2004, the end walls and in some cases the facades are insulated in more than 20 buildings in Ogre town with this financial mechanism, and it is well-known to Ogre inhabitants. The Energy Performance Contracting has been positively evaluated by 27% of the respondents. Support provided by the activity “Improvement of Heat Insulation of Multi-Apartment Residential Buildings” of the ERDF operational programme “Infrastructure and Services” was evaluated as less preferred, as 50% of the costs have to be financed by inhabitants.

Task 6.3 General outcome of meetings – adjustment of final retrofitting plans

The inhabitants have indicated the main energy-efficiency measures that should be implemented in their housing with intention to improve the current situation (arranged according to inhabitants’ preference):

- insulation of roof,
- changing of utilities (water pipes, sewerage, heating system),
- insulations of end walls and facade walls,
- changing of windows in staircases,
- changing of outer doors.

Some inhabitants have mentioned also insulation of the basement, securing of the possibility to regulate the radiators, renewals of external heating mains, cleaning of ventilation system, etc.

The identified financial scheme plans to apply for the currently available EU financing under activity “Improvement of Heat Insulation of Multi-Apartment Residential Buildings” of the ERDF operational programme "Infrastructure and Services" (50%) and to take a credit for the remaining amount (50%). In the case of the involvement of an ESCO the residents are guaranteed, that they will not pay more as in a not-renovated house – thus getting all benefits of the implemented energy efficiency measures for a cost, similar as before, and reducing the inhabitants’ fear of long-term commitments.

Such a scheme is planned to be used as long as the ERDF financing will be available. Afterwards, alternative financial sources (new energy-efficiency improvement programmes, municipal support, etc.) will be searched.

In most cases for receiving financing for energy efficiency improvements in multi-apartment houses, there is a condition that the house has to be taken in the possession

of the flat owners either by giving the management rights to an inhabitants' organisation (society of flat owners or cooperative society of flat owners) or to an authorised person. It concerns also the EU financing under the activity "Improvement of Heat Insulation of Multi-Apartment Residential Buildings" of the ERDF operational programme "Infrastructure and Services". It means that the inhabitants have to consider taking the house in their possession, which brings along also terminating the contractual commitments with the municipal agency "Malkalne". It is a very complicated task, as people are satisfied with the current order and are not willing to take risks and change the safe system to an unknown one. They also have no time and no wish to take additional duties and commitments in maintaining the house, but the most important reason is the lack of money for people. Still, when it will be done, ESCO can start preparation of the applications with intention to receive ERDF financing for the houses of its interest.

Task 6.4 Monitoring and evaluation

The number of meetings was sufficient for giving inhabitants the necessary information presenting and discussing the project aims, the activities and outcomes, the characteristics of the proposed investments, the potential and mechanism of the Energy Performance Contracting, the EU role, and for getting feedback from the inhabitants.

The implemented process is considered understandable to the inhabitants of the pilot-houses. Every apartment was approached by invitation letters to the meetings and questionnaires with explanations on the project tasks and proposed schemes. Inhabitants had a possibility to take part in the meetings; information was provided also via house oldies and direct contacts.

The procedure implemented in the frames of the ECOLISH project was successful. It would have been preferred a higher responsiveness from the side of inhabitants concerning the attendance of the meetings, but also there has to be taken into account that the income level of the inhabitants is very low (in many cases no more than 280 EUR per person) and, besides, a great number of the people in the pilot area are pensioners, who have no big interest about the further condition of their house. The situation is hardened also by the financial and economical crisis in Latvia, due to which many people have lost their jobs, and the salaries (and even the pensions for retired people) are reduced even more. It is psychologically very hard for the people,

as they don't feel safe and are afraid for their future, and they are not very enthusiastic about new proposals and new commitments in such a very difficult period.

As a suggestion for the future, the area of implementing the Energy Performance Contracting should be expanded to larger territories with more houses, having bigger number of apartments.

As ESCO is a business company and, as for every business unit, the main aim of its action is to gain profit, the most important reason for interest from ESCO side is the possibility to earn income in result of energy performance contracting.

Pilot location in Pecsvarad

Task 6.1 Presentation of the energy, environmental and financial characteristics of the proposed investments to the building owners and occupants.

From the beginning of the Ecolish project seven meetings took place. The last meeting, which will be the 8th one, will be held on 7th December 2009. All meetings took place at the Community Center of Pecsvarad.

Meeting 1 : In the first meeting, an introduction of the ECOLISH project was carried out. The meeting was held on 02.18.2007. The following representatives were present:

- Form PTE ,Dr. Zoltan Magyar (vice president of REHVA)
- From Pecsvarad Council, Mihaly Baumann
- From Zengő housing co-operative : Mr. Kösz, Mr. Ressler, Mr. Bánusz, Mr. Katona, Mr. Jéhn, Mrs. Kárpáti, Mr. Resh, Mr. Bedő, Mrs. Papp, Mr. Csatlós, Mr. Marcz, Mr. Feil, Mr. Speigl, Mrs. Szabó, Mr. Váradi, Mr. Mártusz, Mrs. Képes and others.

Meeting 2: The second meeting was held on 09.26.2007. The following representatives were present:

- Form PTE , Zoltan Magyar,
- From Pecsvarad Municipality, Mihaly Baumann
- Head of the housing co-operative: Kösz Laszlo and Ressler Ferenc
- Inhabitants:Mr. Bardos, Mr. Ory, Mr. Schenk, Mr. Nagy, Mrs Schmidt, Mr. Vadasz, Mr. Estok, Mr. Beres , Mr. Bosz, Mrs. Bosz, Mrs Mosonyi, Mrs. Pecs, Mr. Gal, Mrs. Estok, Mr. Muller, Mr. Hosszu, Mr. Acs, Mr. Somogyi,

Mr. Kiss, Mr. Tibenszky, Mr. Sator, Mr. Goncz, Mr. Bacher, Mr. Pecs, Mrs. Kárpáti, Mr. Resh, Mr. Bedő, Mrs. Papp, Mr. Csatlós, Mr. Marcz, Mr. Feil, Mr. Speigl.

Meeting 3: The third meeting was held on 12.11.2007. The following representatives were present:

- Form PTE ,Dr. Zoltan Magyar (vice president of REHVA)
- From Pecsvarad Council, Mihaly Baumann
- From Zengo housing co-operative : Kösz Laszló and Ressler Ferenc

Meeting 4: The fourth meeting was held on 02.13.2008. The following representatives were present:

- Form PTE ,Dr. Zoltan Magyar (vice president of REHVA)
- From Pecsvarad Council, Mihaly Baumann
- Head of the housing co-operative, Zengo: Kösz Laszló and Ressler Ferenc
- 50 55 participants form the inhabitants

Meeting 5: The fifth meeting was held on 04.15.2008. The following representatives were present:

- Form PTE ,Dr. Zoltan Magyar (vice president of REHVA)
- From Pecsvarad Council, Mihaly Baumann
- Head of the housing co-operative: Kösz Laszlo and Ressler Ferenc
- Techem H

Meeting 6: The sixth meeting was held within the period June- July-August 2008.

Social questioning took place in the dwellings of each inhabitant.

Meeting 7: The seventh meeting was held on 11.02.2009. The following representatives were present:

- Form PTE ,Dr. Zoltan Magyar (vice president of REHVA)
- Head of the housing co-operative: Kösz László and Ressler Ferenc
- 65 participants form the inhabitants

Task 6.2 Feedback from the occupants

The inhabitants enjoyed participating in the ECOLISH project.

They were interested in the retrofitting of their apartments with one condition, to be supported financially by the government or the municipality because most of the inhabitants can not afford to spend money on the apartments retrofitting.

The apartment owners (99% of the inhabitants are the flat owners) are motivated in retrofitting their house/dwellings. Some of the inhabitants already made a few important retrofitting; like as replacement of the existing windows with new plastic insulated one, replacement of the existing gas boilers.

The question is how to treat and make unitary solution for the whole house when some dwellings are retrofitted while most of the dwellings are not.

In Hungary the ESCO projects are always related to a product or a service. Independent ESCO in Hungary is not typical; they sell some of their service, for example, TECHEM can only pay the project if in the project there will be a heat allocator. In Pecsvarad each dwelling has individual heating and therefore there is no need for heat allocators.

Task 6.3 General outcome of meetings

a. Energy retrofitting

Each dwelling got the Energy Certificate and the list of those measures which can decrease the energy consumption. Each individual apartment owner can apply for different tenders that would help with the realization of the retrofitting.

b. Financial scheme

The housing co-operative is looking for tender applications and ESCO companies which can execute the retrofitting and remodeling.

Adjustment of final retrofitting plans

Occupants going to decide and agree upon which of the suggested measures will be used, the scale of the retrofitting and to find a proper ESCO company.

Until now there was no ESCO in Pecsvarad, therefore there is a need to be found.

Task 6.4 Monitoring and evaluation

The meetings were enough with the occupants who understood the importance of the retrofitting, communicated with Pecsvarad Municipality, PTU, and with the housing co-operative.

The inhabitants realized the necessity of the retrofitting which would lower their utility bills. According to the social analysis that was carried out in Pecsvarad, the average household spends 20% of their monthly income on energy bills.

The occupants considered the organization of the meetings and the presentations of the measures successful.

The owners of the dwellings would have got financial support from a government founding if the houses were made from concrete. It should be noted that at the beginning of the ECOLISH project there was no legislation made for retrofitting implementation of the concrete made buildings.

In Hungary there was no ESCO company participating in the ECOLISH project. Additionally, the ESCO companies involved in the other countries did not give an offer for the Hungarian location.

Pilot location in Pieria

Task 6.1 Presentation of the energy, environmental and financial characteristics of the proposed investments to the building owners and occupants.

In the Pieria pilot location, no organisation, public or private-organised by the occupants existed in the area of the social housing, responsible either for building subjects or for social subjects. As a result it was difficult to organize meetings inviting all occupants, as nothing like this was organized ever (since 1977 that the blocks were built). For this reason a multilevel approach methodology was adapted; house to house visit, visits for notification of the project, visits for social subjects, visits for technical subjects, organization of special meeting of occupiers, participation in occupants' general assemblies, telephone calls, special letters. Meetings' schedule was based on the bottom-up approach and on private meetings with each occupant, at least in first level, in order to explain all parameters, not only of the ECOLISH project but also of the general legislative framework that govern the overall project's subject. Contacting directly and organizing the occupants concluded to be the best approach. Meetings took place in 8 consequent time periods, starting from 01/02/2008, that the project was notified to the selected pilot location. In more detail:

1. Initial house by house meetings.

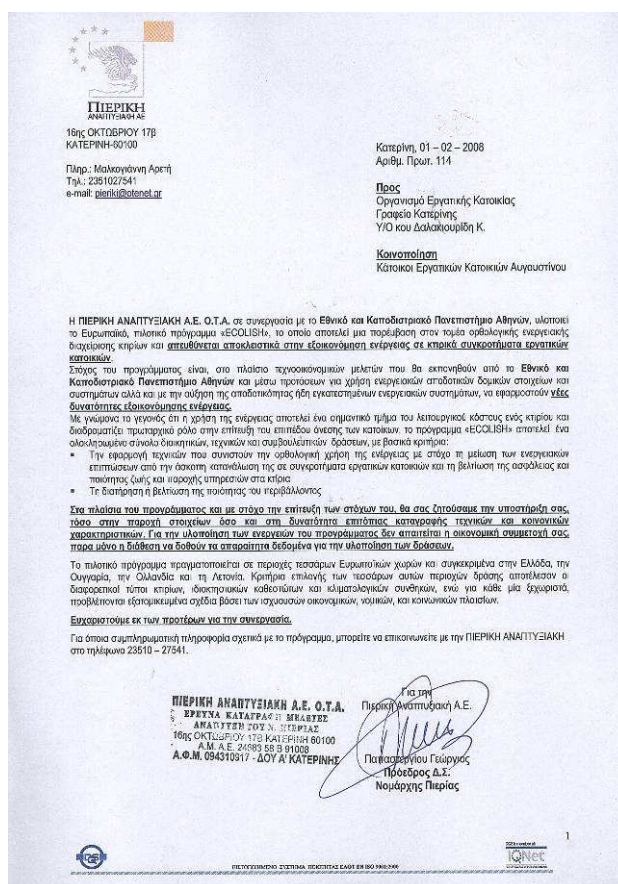
Subject: Initial information regarding ECOLISH and energy efficiency in social housing. Information regarding the involved parties. 10 leaflets on RES and energy efficiency were handed out along with informative official letter. Discussion on organizing the occupants' subjects.

Dates: from 01/02/2008 to 08/02/2008.

Venue: Each occupant house.

Experts present: Two persons from Pieriki (Zapounidis, Malkogianni)

Attendants: 85 occupants.



Official Informative Letter

2. Second level house by house meetings.

Subject: Detailed presentation of ECOLISH project and of actions to be implemented at local level. Information on what it will be required to be done by the occupants.

Total number of visits: 105 visits.

Dates: from 09/02/2008 to 19/02/2008.

Venue: Each occupant house.

Experts present: One person from Pieriki (Malkogianni)

Attendants: 105 occupants.

3. Open meeting with pilot block occupants

Subject: Details on who occupants are proposed to be organized in order to implement ECOLISH project's actions.

Date: 20/02/2008.

Venue: Communal area of pilot location.

Experts present: Two persons from Pieriki (Zapounidis, Malkogianni)

Attendants: 22 occupants.

4. Meetings on social subjects

Subject: Meetings with the occupants on social characteristics of the pilot location. Possibilities of organizing occupants and how were analysed. Social information requested for the relative social analysis was gathered. Duration of each meeting was more than one hour, leading to important feedback on social subjects.

Total number of visits: 28 visits.

Date: from 08/04/2008 to 22/04/2008.

Venue: Each occupant house.

Experts present: Two persons from Pieriki (Zapounidis, Malkogianni)

Attendants: 28 occupants (in some houses more than one occupant was present).

5. Meetings on technical subjects

Subject: Meetings with the occupants on technical characteristics of each apartment, each block and the pilot location in general. Technical information requested for the relative technical analysis was gathered. Duration of each meeting was more than one hour, leading to important feedback on technical problems, along with photographing of important building mal-functions.

Total number of visits: 28 visits.

Date: from 23/04/2008 to 30/04/2008 and 09/08/2008.

Venue: Each occupant house.

Experts present: One person from Pieriki (Malkogianni) and one person from NKUA.

Attendants: 28 occupants (in some houses more than one occupant was present).



Technical meetings photographing

6. Feedback Meetings

Subject: Feedback Meetings with the occupants on organizing subjects. Feedback on the potentialities of organizing the occupants was screened. Details on EEC, EPC and ESCO were initially presented.

Total number of visits: 28 visits.

Date: from 15/01/2009 to 28/02/2009.

Venue: Each occupant house.

Experts present: Two persons from Pieriki (Zapounidis, Malkogianni)

Attendants: 28 occupants (in some houses more than one occupant was present).

7. Telephone information provided Meetings on technical subjects

Subject: In the meantime of the social and technical analysis by the NKUA, Pieriki made telephone calls to the occupants in order to inform them on the progress and on the future presentation of results.

Total number of telephone calls: 85.

Date: from 25/04/2009 to 30/05/2009.

Experts present: One person from Pieriki (Malkogianni)

8. Meeting-presentation of ECOLISH project results-Feedback session

Subject: Final meeting with the occupants in order to:

- i. Present the results of the Analysis materialised by NKUA
- ii. Present the financing opportunities of the proposed measures by TECHEM
- iii. Present the accomplished and future steps by PIERIKI
- iv. Discuss all proposals in order to gather the required feedback for Tasks 6.2 and 6.3

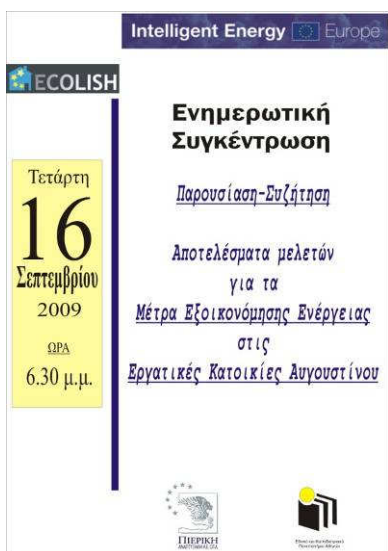
Date: 16/09/2009.

Venue: A local gathering place, just opposite the blocks were selected, as it is their every-day meeting place and they are familiar with it. Door to door information and telephone invitations took place, in combination with posters in the pilot location. Drinks and snacks were offered to all of them, along with presentations of results and actions to be implemented.

Experts present: Two persons from Pieriki (Zapounidis, Malkogianni), one person from NKUA (Farrou) and two persons from TECHEM (Dagiantis and associate).

Attendants: 30 occupants.

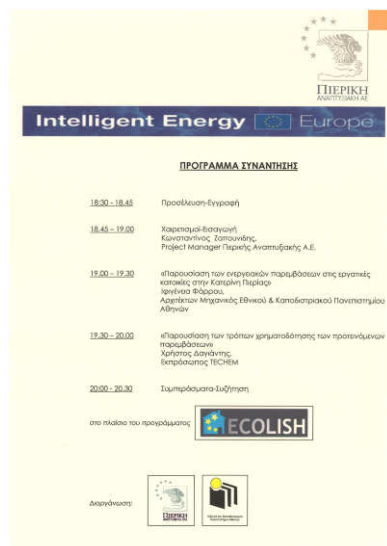
- v. The number of occupants that participated was larger than estimated.
- vi. 30 occupants participated in the presentation meeting.
- vii. Important was the fact that occupants from 16 out of 17 blocks joined the presentation event-mainly building managers. In this way full coverage of the blocks were succeeded.
- viii. 12 occupants of the pilot blocks (simulated) attended the meeting.
- ix. Statistically, 23 men and 7 women attended the meeting.
- x. On the site, it was decided to present the results in a conversation format, followed by the feedback session.
- xi. TECHEM provided installation paradigms.
- xii. Legal support was offered during the event, as described in Task 4.3.



Meeting Poster



Meeting Poster



Meeting Agenda



Meeting Attendants



Meeting Attendants



Meeting Presenters

Task 6.2 Feedback from the occupants

Depending on the phase of the project and on the progress of organising the occupants process, different feedback was received by the occupants. Feedback could be separated in two groups, Initial and Final.

Initial Feedback

Occupants were rather unaware of the processes described in the ECOLISH project. Moreover, they provided Pieriki with an initial working framework that trust had to be cultivated between them and Pieriki, since such work was not implemented before in such a location. Especially after meetings 1 to 5 described above, the following feedback was received:

- No trust to Organisation of Social Housing existed among the occupants, since the actual cost spent for their apartments were even double the one predetermined (the lack of trust has to do with the central authority and not the local office).
- All of the occupants were still suspicious on the subject of “why someone wants to do something like that for free?”

Nevertheless, the following results were gathered:

- Initial acceptance to support regarding technical and social analysis was expressed unanimously.
- Funding the interventions was out of the question!
- Even saying that the Organisation of Social Housing could support the funding was creating frustration.
- Difficult to explain Energy Performance Contracting, some misunderstood that we were an installation company that want to materialize the proposed interventions. No input by the partner in charge of this specific subject.
- Difficulties on understanding the concept due to:
 - Low educational level
 - Age above 60
 - Low income workers and pensioners

Feedback led to the successful trust development between the researchers and experts of Pieriki and the occupants. In such way, the main difficulty that the occupants had, to invite an unknown person (researcher) in their own house, have been surpassed. Finally, the following feedback information have been noted and surpassed, as proved by the final results of the project:

- Ignorance of the role of Pieriki Anaptixiaki.
- Suspicion about the researchers' purposes and the potential future benefits for them.
- Negative attitude against anyone who might have any interference with the construction of the buildings due to the low quality of the buildings.
- Finally, due to the low educational level of the occupants, the researchers had difficulties to explain the procedure and the purposes of the project.

Final Feedback

Initial feedback comments were more general, and answered during the project duration. On the other hand, final feedback comments were more technical and required immense answers, given during meetings 6 to 8, and especially the meeting No. 8. The following feedback comments were received, answered in full by experts of Pieriki, NKUA and TECHEM:

- Cost per intervention is calculated?
- How the central heating system will work after the interventions?
- System alternation is required?
- What are the differences with autonomous heating per apartment?
- What is the cost for the heat cost allocators presented?
- The old pipes have to be removed?
- How the heat cost allocator and the system installed works?
- Does someone have to enter each apartment in order to calculate energy consumption?
- Heat cost allocators have to be installed in all heating radiators?
- What is the guarantee?
- What is the minimum energy saving?
- Damages will be done to the apartments?
- Existing fuel (oil) will be used?
- What it will be paid when the apartments will be empty or not-used for a long period?

Feedback comments were made clear to occupants, and as a result Pieriki, NKUA and TECHEM will be invited in the first General Assembly of the new period where decisions on heating technologies subjects will be discussed.

Although in the beginning occupants were negative regarding retrofitting their dwellings, the step by step approach adapted after the feedback received led to the result that occupants are interested in retrofitting their dwellings, nevertheless the cost is an important skepticism factor. Moreover, some of them have made individual interventions, mainly related to the indoor environment, such as double glazing, A/C split units, covering their own expenses. This proves the, in general, interest to retrofit their dwellings, nevertheless cost support, especially due to the general crisis situation, is more than essential. Finally, the technical analysis results of NKUA were accepted as proposals, especially as they were provided in a step by step format and cost analysis.

As a result to the aforementioned, the idea of an ESCO was not “banned” in the end. Although in the first meetings with the occupants such a subject was creating negative reactions, in the end, and after the relative explanations by TECHEM (the ESCO partner at local level) their reactions were smoothed. Finally, discussions on how an ESCO will operate the established operating system were elaborated, leading to the result that an ESCO could offer them important support in their retrofitting decisions.

Task 6.3 General outcome of meetings

General outcome of the meetings organized and executed in the pilot location is that occupants are receptive to support. Although they are negative in general regarding external support, mainly due to the fact that no support was offered to them by no one until now, when explaining in detail the scope of the support to be offered their hesitation was overcome. Initial feedback described in the above paragraph was processed and solution processes were adapted in order to solve all faced situations:

- Ignorance of the role of Pieriki Anaptixiaki. *Now all occupants know the development role of Pieriki Anaptixiaki.*
- Suspicion about the researchers' purposes and the potential future benefits for them. *Researchers are being invited in occupants houses, clear scope of Pieriki and ECOLISH project have been understood by occupants.*
- Negative attitude against anyone who might have any interference with the construction of the buildings due to the low quality of the buildings. *The simplified financial framework of ECOLISH project has been understood by occupants.*
- Finally, due to the low educational level of the occupants, the researchers had difficulties to explain the procedure and the purposes of the project. *Every day vocabulary explained everything easily, terms as heat cost allocators have been understood by occupants.*

In conclusion occupants require support, not only in terms of energy efficiency but also in terms of social and surroundings subjects. Since such support was not offered due to the common practice in Greece, it was offered to them in the framework of ECOLISH project, by Pieriki (1st level) and NKUA, Techem (2nd level).

In terms of the energy retrofitting the following energy retrofitting interventions is feasible to be carried out, by partner Techem:

1. Upgrade the existing building installations. This will include:

- Replacement of the existing boiler (efficiency around 65%) with high efficient condensing boiler (efficiency of 90%).
- Insulation of the pipes, in order to minimise the heat losses
- Conversion of the central heating system to an autonomous system. This will be realised with installation of thermostats for heating to each unit (radiators) in every

flat. In this way occupants will operate the systems as long as they wish and will be able to adjust the set points according to their needs.

- Installation of heat cost allocators in each dwelling. In this way occupants will have the feeling of their energy consumption.
- The energy management of the blocks
- The operation, maintenance and repair of the installations

2. Upgrade the building envelope. This will include:

- Installation of external insulation on the roof of the blocks in order to reduce the heating loads during the winter period and improve the thermal comfort levels.
- Use of external paints on the roof and walls with high solar reflectance in order to reduce the solar gains thus cooling loads during the summer months.

In terms of financial scheme to be used is energy performance contracting proposal between partner Techem Company (ESCO) and the occupants of the blocks. The main idea of contracting Techem, is the energy maintenance of the blocks by Techem and the upgrade of the buildings systems. In order to realise the project, Techem will carry out sensitivity analysis concerning the energy profile of the case study and the needs of the occupants regarding cooling, heating and hot water.

Adjustment of final retrofitting plan

Next step to be carried out is the signing of the contract between the ESCO and the building. For this reason the decision of the blocks' General Assembly is required, as described in WP3. Since the General Assembly will decide to sign the contract with the ESCO, the Building Manager will be authorized to sign the contract, whilst the General Assembly decision will be part of the contract to be signed. Then the ESCO will have the right to implement the interventions decided in the General Assembly of the blocks.

In more detail, based on the consent achieved, the General Assembly authorizes the Building Manager and the services company to constitute the private agreement of the building, which content the General Assembly has approved orally. The Private Agreement should include all the related subjects (energy calculations, costs distribution, etc.). As a result, the only legally based framework for organizing legally the Occupants for the actions of ECOLISH project is the combination of the General Assembly of the joint-ownership along with the energy performance contract

(building management contract) to be signed with a third party as ECOLISH partner TECHEM.

From the final meeting and the occupant's feedback it was clear that the retrofitting will take place in two stages:

First stage of the retrofitting: At a first stage the retrofitting will include the installation of heat cost allocators and the conversion of each dwelling to an autonomous heating unit. Techem will take over the energy management of the blocks. The inhabitants will pay their bills to Techem who will be responsible for the collection and the monitoring of the energy consumption of each flat. This will be implemented as soon as the energy performance contracting is signed between the occupants and Techem

Second stage of the retrofitting: At a second stage all the other energy measures that are examined will be implemented. These include the replacement of the existing boilers, the insulation of the pipes, the installation of external roof insulation, and the paintings of the blocks externally with paints with high solar reflectance.

Task 6.4 Monitoring and evaluation

Meetings with the occupants could be described as more than enough, since in Pieria pilot location organizing activities started from zero point and, moreover, more than the meetings described in the Grant Agreement were materialized. Pieriki's presence at the pilot location was continuous during the project duration, and since the same experts were responsible for the actions to take place at the pilot locations, familiarity has been developed. Pieriki's expert provided support not only in energy efficiency but also in social subjects. Thus, due to lack of responsibilities, many social aspects could not be faced. Occupants were facing Pieriki's expert not only as the project's implementers but also as the individuals with which technical and social aspects could be discussed, leading at least to rationalisation of situations.

Nevertheless, the process was not so easy to be understandable by the occupants. Due to their ignorance and medium level of education, the processes of the ECOLISH project were difficult to be explained. For this reason, Pieriki's experts in strong collaboration with NKUA and TECHEM have simplified the concept of the project's processes. Following the bottom-up approach and based on the feedback of the numerous meetings with the occupants, the real questions have derived and so the processes were described in detail and as simplified as possible, in order to achieve

the maximum comprehension. In the end, the occupants have understood what an ESCO could offer them and what is the existing legal framework in Greece. Participation of ESCO to meetings helped the comprehension of the process, since they could provide immense answers to the feedback provided.

The procedure, as described in the ECOLISH project Grant Agreement, was adapted in full. Moreover, the bottom-up approach methodology was adapted in our case-study since no organizing framework existed before the implementation of the project. In such, the bottom-up approach actions were inserted in every step of the project; selection of the pilot location, approach of the occupants, organization of meeting, presentation of the measures and ESCOs. As a result, the procedure followed was successful at local level taking into consideration the limited existing level of organizing. An important success factor was the adaption of the local characteristics of the selected pilot location and the national legal framework, which have to be examined in detail. The adaption of the local characteristics in the procedure described in the Grant Agreement led to the success of the project's local actions and to the definition of the procedure as successful. Initial steps of the procedure could be avoided; nevertheless they reassured the legal coverage and communication actions of all possible involved parties (outside the project).

The ESCO's interest (Techem) to participate in the project was multi-level, lying in three different levels: local, national and European. At local level ESCOs have the opportunity to contact the pilot location and with the support of the local actor to discuss with the occupants the potentiality of signing a local contract. More detailed examination and analysis of the location was offered, since local and academic partners were involved in the pilot location process. Such results could act as results' input to further contracts. At national level, although the existing legal framework and the market requests were known to ESCOs, coding of the existing framework could provide an important tool to them. At European level, exchange of knowledge between similar companies is always an important toll of knowledge development. Moreover, the local conditions in different countries could also provide important feedback to all participants ESCOs.

Conclusions

In all four pilot locations, the proposed energy and financial interventions within the ECOLISH project were presented to the occupants of the pilot locations through a series of meetings. The meetings were attended by a number of inhabitants, representatives of the ESCOs companies, the municipalities and the Universities. All meetings were carried out in the native languages.

The acceptance of the proposed measures was influenced by the social and financial status of the occupants. The following parameters act as limitations to the ECOLISH project:

- A shared problem for all pilot locations is the number of residents, who don't care about their housing situation at all. They are not open to improvements of the housing, and this is a problem in the case of blocks where there are a lot of ownerships and in order to proceed with retrofitting the condensation of all owners is necessary.
- In the pilot location of Riga and Pieria there are many empty houses because the younger residents have moved to the cities. Also the remaining inhabitants are quite old (even older than 70 years old) and many of them are not interested in the retrofitting of their housing.
- In Pieria there were difficulties to explain the Energy Performance Contracting to the inhabitants due to the low education level. Also, there is very limited experience in practice as there are no many realised projects by ESCOs companies and it was difficult for the inhabitants to understand the process .
- In Ogre, due to the financial and economic crisis many people have lost their jobs. Therefore, the retrofitting of their housing is not a priority.
- In all pilot locations, the possibility for the inhabitants to participate to the funding of the energy retrofitting is out of question due to their restricted financial situation.
- In many flats of all pilot locations, the owners have proceeded with partial retrofitting. A question is arisen concerning the uniformity of the flats that have been already partially retrofitted and those that will be renovated in the case of an Energy Performance Contracting.
- Apart from the case of Hungary, in all pilot locations there was an ESCO involved from the beginning of the ECOLISH project. In Hungary there was no ESCO

company involved, therefore no discussions regarding the implementation of the plans were carried out.

- Evaluation of the process that was followed within the ECOLISH project showed that the number of meetings was enough in all the pilot locations for the presentations of the energy and financial measures. Although at the beginning of the project, most of the inhabitants were quite suspicious and reluctant about the Energy Performance Contracting (Pieria, Latvia, Hungary) and the benefit they would gain, at the end, a big number of inhabitants were positive in the idea and they were convinced about the necessity of retrofitting their flats.
- The ESCOs involved in the ECOLISH project are: Techem (for Pieriki), ESSENT (for Heerlen) and Sun Energy Baltic (for Ogre). From a local/national point of view, the main interest for the ESCOs companies that participate in the ECOLISH project is the financial parameter, and the signing of an Energy Performance Contracting with the pilot locations. At an international level, the ESCOs companies gain from the exchange of information and knowledge among these. In the case of Hungary where no ESCO was involved, ESSENT (from the Netherlands) is considering to make an offer for the realisation of the proposed energy measures. This can be considered as a successful outcome of the European value of the ECOLISH project.

The next step for the pilot locations are:

- Pieriki: Signing the Energy Performance Contracting and implementing the first stage of the retrofitting (installation of heat cost allocators in each flat) and energy management by Techem. The above would be realised in the next General Assembly when this will be organised by the Building Manager probably within December 2009.
- Ogre: The inhabitants have indicated the main energy-efficiency measures that should be implemented in their housing with intention to improve the current situation. Therefore, a decision should be made on the energy measures to be implemented and ESCO can start preparation of the applications with intention to receive ERDF financing for the houses of its interest.
- Hungary: The energy measures to be implemented have been agreed. Still, an ESCO company is pending to give an offer for the realization of the measures.

Finally a general outcome of the project is that the ESCOs would have a more secure profit if the implementation of the measures would target to larger territories with younger population. Also the financial status of the target group has a severe impact on the progress of the projects as, for people who experience a financial crisis and do not have a job, the energy retrofitting of their housing is not a priority.

Appendix

ECOLISH Template for Work Package 6

Task 6.1

1. Please describe how many meetings took place with the occupants. (Please give the date and venue of the meetings)
2. Who were present/ which experts were invited. Please provide a list of the attendants if available .
3. Please provide any characteristics fotos (1-2) of the meetings if available.

Task 6.2

1. What was the feedback from the occupants?
2. Are they interested in retrofitting their dwellings?
3. Are they positive in the idea of an ESCO?

Task 6.3

1. What was the general outcome of the meetings? In your pilot location, what is feasible to be carried out in terms of:
 - a. energy retrofitting
 - b. financial scheme to be used
2. What is the next step to be carried out for both the occupants and the ESCO?

Task 6.4

1. Were the meetings enough with the occupants?
2. Was the process understandable by the occupants?
3. Do you think the procedure that was followed within the ECOLISH project (selection of pilot location, approach of the occupants, organization of meetings, presentation of the measures and ESCO) was successful?
4. What was the main interest for the ESCOs to participate in this project?