



## **EIE Project ROSH**

**Development and marketing of integrated concepts for energy efficient and sustainable retrofitting of social housing**

[www.rosh-project.eu](http://www.rosh-project.eu)

### **Questionnaire on regulatory frameworks and economic conditions**

WP 3: Advanced Tailored Financial Schemes

Task 3.1: Analysis of existing financial mechanisms and economic conditions

Deliverable: D13a

Country:

Organisation:

Person in charge:

, 2006

**Intelligent Energy**  **Europe**

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## **Introduction**

### **Objective of this questionnaire**

The questionnaire on regulatory frameworks and economic conditions is a deliverable of work package 3 "Advanced Tailored Financial Schemes" of the EIE project ROSH (deliverable D13a). The objective of this work package is to elaborate a guidebook, called "Sustainable Retrofitting of Social Housing", and to apply this guidebook in training courses for decision makers.

The guidebook will contain information, planning tools and good practice examples – successful financing concepts – on the regulatory frameworks, economic conditions, subsidy schemes and advanced tailored financing schemes. The guidebook is intended for decision makers in housing companies, and local authorities as well as energy agencies, consultants and planners.

With this questionnaire ROSH project partners collect background information, which is needed for the elaboration of the guidebook.

### **Sources of the questionnaire**

The questionnaire on regulatory frameworks and economic conditions ("financial" questionnaire) is based on the results of the kick-off meeting of the ROSH project and a survey format of the EIE-project INOFIN<sup>1</sup> ("Survey of Financial Mechanisms for Social Housing Refurbishment").

This questionnaire is linked to another questionnaire of the ROSH project about the market analysis for social housing in Europe (work package, 2, task, 2.1, deliverable D6a).

This "financial" questionnaire has been designed by Graz Energy Agency in spring 2006.

### **How to use the questionnaire**

This electronic questionnaire is designed to be applied by the project partners of the ROSH project. In this sense it is a kind of common checklist for the analysis of existing financial mechanisms and economic conditions in the partner regions: Lower Saxony / Germany, Styria / Austria, Dublin / Ireland, Warmia-Mazuria and Pomerania / Poland and Piemonte /Italy. For Bulgaria the results of the EIE projects INOFIN and ISEES<sup>2</sup>, in which Sofia Energy Centre (SEC) is involved, will be used.

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<sup>1</sup> INOFIN: Innovative Financing of Social Housing Refurbishment in Enlarged Europe, see also: <http://europa.eu.int/comm/energy/intelligent/projects/doc/factsheets/inofin.pdf>

<sup>2</sup> ISEES: Improving the Social Dialogue for Energy Efficient Social Housing, see also: <http://europa.eu.int/comm/energy/intelligent/projects/doc/factsheets/isees.pdf>

## **Questionnaire: Table of Contents**

Part A	Legal Framework.....	4
Part B	Institutional Framework .....	8
Part C	Financial Framework.....	10
Part D	Advanced Tailored financing schemes.....	13
Part E	Good Practice Examples .....	15
Part F	Cost Data Base .....	21
Part G	Summary .....	23

## Part A Legal Framework

This part describes the legal framework in the field of (social) housing and energy efficiency on national as well on regional/local level.

A.1 On which national, regional and local policy documents is the housing policy based on?<sup>3</sup> Please, explain (approx. 1 page): a) content in brief, b) main restrictions and c) obligations for refurbishment activities of these policy documents.

a)

b)

c)

A.2 How do these laws regulate rent increase due to housing refurbishment?

A.2.1 What are the limits for increasing rents?

- 
- 
- 

A.2.2 How is the allowed rent increase checked after refurbishment?

A.3 How are financial means for refurbishment regulated?

A.4 Who is deciding on refurbishment activities?

- 
- 
- 

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<sup>3</sup> See also question A12 of the questionnaire „Market analysis for Social housing in Europe“

A.5 Are there regulatory differences between small and large refurbishment<sup>4</sup> activities? If yes, please explain these differences.

yes       no

If yes:

- 
- 
- 

A.6 In which cases is the refurbishment of buildings obligatory?

- 
- 
- 

A.7 Which standardised refurbishment plans are stated in housing policies?

- 
- 
- 

A.8 Which energy related standards exist for social housing buildings?

- 
- 
- 

A.9 In which cases a building permit is needed before the refurbishment of a building?

- 
- 
- 

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<sup>4</sup> Small refurbishment activities: partial refurbishment, e.g. replacement of windows or renewal of facade without additional insulation  
Large refurbishment: comprehensive refurbishment including many parts of the building, e.g. additional insulation of outer walls, replacement of windows, new heating system etc.

A.9.1 Is there any regulation existing to improve the energy performance of buildings which are refurbished? If yes, please, explain this regulation briefly.

yes       no

If yes:

A.9.2 Is there any regulation existing to add thermal insulation to buildings which are been refurbished? If yes, please, explain this regulation briefly.

yes       no

If yes:

A.10 Is there any (district) heat cost regulation (e.g. special taxes on fuels)? If yes, please, explain this regulation.

yes       no

If yes:

A.11 Is there any heat (supply) regulation (e.g. obligatory use or prohibition of specified fuels? If yes, please, explain this regulation.

yes       no

If yes:

A.12 What are the objectives of regional or local energy plans with regard to refurbishment of social housing buildings?

- 
- 
- 

A.13 What is the status of the implementation of the EU Directive on Energy Performance in Buildings (EPBD) in your Member State?

A.13.1 Which elements of the EPBD are already implemented?

Adoption of methodology (art. 3):       yes       partially       no

Energy performance requirements (art. 4):       yes       partially       no

New buildings: alternative systems (art 5):       yes       partially       no

Existing buildings: energy performance (art 6):       yes       partially       no

Energy performance certificate (art. 7):       yes       partially       no

Inspection of boilers (art. 8):       yes       partially       no

Inspection of AC-systems (art. 9):       yes       partially       no

A.13.2 What are the limits of minimum energy standards for new / existing buildings?

New buildings:

Existing buildings:

A.14 Are any other new regulations on national, regional or local in the field of energy efficiency and/or the social housing sector in the years up to 2010 planned to be implemented?

- 
- 
-

## Part B Institutional Framework

This part describes the institutional framework related to social housing. In particular the role of housing co-operatives, municipalities, national, regional or municipal institutions are shown.

- B.1 What is the role of national public authorities with regard to refurbishment of social housing buildings?
- B.2 What is the role of regional public authorities with regard to refurbishment of social housing buildings?
- B.3 What is the role of local public authorities (municipalities) with regard to refurbishment of social housing buildings?
- B.4 What is the role of housing co-operatives (or housing societies) with regard to refurbishment of social housing buildings?
- B.5 How do housing co-operatives (or housing societies) generate resources for new projects / refurbishments?
- rents
  - selling part of the building stock
  - investments on capital market
  - financing by the government
  - 
  -
- B.6 Are residents organized in associations representing their interest at a real estate?
- yes       no

B.7 Are there any other main actors or associations regarding social housing? If yes, please describe these actors or associations in brief.

yes       no

If yes:

## Part C Financial Framework

This part describes the financial framework for refurbishment of social housing buildings. In particular the financial support for refurbishment activities is considered. Support means e.g. subsidies, grants, tax exemptions or soft loans. What kind of support is available, how much and what are the criteria for receiving support?

C.1 Describe the (national/regional/local) subsidy schemes available for social housing refurbishment. This description includes subsidies: a) refurbishment of existing (social) building stock, b) specific financial means for energy efficiency or renewable energy investments (wall & roof insulation, double glazing etc. )

a)

b)

C.2 What are the technical/financial eligibility criteria for subsidies with regard to refurbishment of buildings?

Subsidy #1:

Subsidy #2:

Subsidy #3:

Subsidy #4:

Subsidy #5:

C.3 Are energy audits required for receiving subsidies?

yes       no

If yes:

C.3.1 What are the requirements on and elements of this energy audit?

Requirements:

- 
- 
- 

Elements:

- 
- 
- 
- 
- 

C.3.2 Who has to pay for the energy audit?

C.4 Which kind of financial support is provided?

- direct grant, not redeemable (subsidies:        )
- direct grant, redeemable (subsidies:        )
- not redeemable grants to a loan of a public authority (subsidies:        )
- redeemable grant to a loan of a public authority (subsidies:        )
- not redeemable grant of annuities to a bank loan (subsidies:        )
- redeemable grant of annuities to a bank loan (subsidies:        )
- 
- 

C.5 Are tax exemptions or tax allowances existing for refurbishment or certain energy saving activities / technologies?

- yes (tax exemption)                       yes (tax allowance)                       no

If yes:

C.5.1 What are the criteria for getting tax exemptions or tax allowances?

- 
- 
- 

C.5.2 How much is the tax reduction in relation to the standard taxation?

%

C.6 Which public awareness campaigns are supporting grant programmes?

- 
-

▪  
C.7 Who gives information on refurbishment of social buildings?

- energy agencies
- energy consultants (private companies)
- housing cooperatives (or housing societies)
- national or regional authorities
- 

C.8 How much budget is disposable for subsidies on national/regional/local level a) for new buildings and b) refurbishment?

- a)  national: Euro  regional: Euro  local: Euro
- b)  national: Euro  regional: Euro  local: Euro

C.9 What are the effects of subsidies for refurbishment on regional level<sup>5</sup>?

- a) total energy savings: kWh/a
- b) reduction of CO<sub>2</sub>: t/a and %
- c) number of refurbished social house buildings: real estates per year in average
- d) additional energy savings, which have been gained due to subsidies: kWh/a or %
- e) additional CO<sub>2</sub> reduction, which has been gained due to subsidies: kWh/a or %
- f) other beneficial effects:

C.10 Have operating costs and energy costs influence on the calculations of the following kinds of value of a building? If yes: How strong is the effect of these costs on the value of the building?

- a) market value:  yes  no, if yes:
- b) hypothecary value:  yes  no, if yes:
- c) insurance value:  yes  no, if yes:

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<sup>5</sup> If data are not available on regional level, please fill in data on national level.

## Part D Advanced Tailored financing schemes

D.1 How many energy service companies (ESCOs) are existing in your region?

- 0 ESCOs                       up to 3 ESCOs                       up to 10 ESCOs  
 up to 25 ESCOs                       up to 50 ESCOs                       more than 50 ESCOs

D.2 What kind of energy (efficiency) services do ESCOs offer?

- energy performance contracting (with pre-financing)  
 energy performance contracting (without pre-financing)  
 delivery contracting (with pre-financing)  
 delivery contracting (without pre-financing)  
 guarantee models (without pre-financing):

D.3 How many third party financing (TPF) projects have been realised in your region? Approximately:

- 0 projects                       up to 5 projects                       up to 20 projects  
 up to 50 projects                       up to 100 projects                       more than 100 projects

D.4 What barriers do exist for TPF projects in the social housing sector?

- 
- 
- 
- 
- 

D.5 Do banks offer special loans for energy efficiency projects? a) For energy efficiency project in general and b) for the social housing sector in particular?

- a)  yes                       no

b)  yes  no

D.5.1 If yes: what are the criteria for providing these loans? (e.g. minimal size of loans required)

D.6 Can financing of energy efficiency measures be part of a mortgage?

yes  no

D.6.1 If yes: what are the criteria to this?

D.6.2 If not, what are the main reasons for them not to finance energy efficiency projects?

## Part E Good Practice Examples

Provide a description of 3 good practice examples of social housing refurbishment projects. These projects are good practice examples in the case they are considered to be "innovative" in your region (related to energy performance, energy sources, financing, involvement of residents, ...).

### E.1 Good practice Example #1:

#### E.1.1 General information

Address:

Number of dwellings:                      Total heated floor area:                      m<sup>2</sup>

Year of construction:                      Year of refurbishment:

This project is "innovative", because

#### E.1.2 Energy related indicators

Energy performance of the building before and after the refurbishment (without domestic hot water – DHW):

before:                      kWh/m<sup>2</sup>.a,    after:                      kWh/m<sup>2</sup>.a

Reduction of CO<sub>2</sub>-emission after the refurbishment (in t/a and in %):

-                      t/a,                      -                      %

Heating system before and after the refurbishment:

before:                      ,                      after:

DHW system before and after the refurbishment:

before:                      ,                      after:

Has a monitoring system been installed before and after the refurbishment of the building?

before:                       yes                       no

after:                       yes                       no

#### E.1.3 Description of energy related activities

Insulation of:                      with                      cm insulation

Insulation of:                      with                      cm insulation

Insulation of:            with            cm insulation

Replacement of:

Installation of:

Improvement of:

Training / information of residents:

           :

           :

           :

#### E.1.4 Financial indicators:

Investment costs of the total refurbishment:            Euro

Investment costs of the energy related refurbishment:            Euro

Share of public and private funds:

                 % public,            % private

Share of own resources and third party financing:

                 % of own resources,            % by third party financing

Energy costs before and after the refurbishment:

Before:            Euro/a,            after:            Euro/a

#### E.1.5 Which planning methods and planning tools have been applied?

- 
- 
- 

#### E.1.6 Are photos of the building before and after the refurbishment available?

yes             no

### E.2 Good practice Example #2:

#### E.2.1 General information

Address:

Number of dwellings:            Total heated floor area:            m<sup>2</sup>

Year of construction:            Year of refurbishment:

This project is "innovative", because

#### E.2.2 Energy related indicators

Energy performance of the building before and after the refurbishment (without domestic hot water – DHW):

before: kWh/m<sup>2</sup>.a, after: kWh/m<sup>2</sup>.a

Reduction of CO<sub>2</sub>-emission after the refurbishment (in t/a and in %):

- t/a, - %

Heating system before and after the refurbishment:

before: , after:

DHW system before and after the refurbishment:

before: , after:

Has a monitoring system been installed before and after the refurbishment of the building?

before:  yes  no

after:  yes  no

#### E.2.3 Description of energy related activities

Insulation of: with cm insulation

Insulation of: with cm insulation

Insulation of: with cm insulation

Replacement of:

Installation of:

Improvement of:

Training / information of residents:

:

:

:

#### E.2.4 Financial indicators:

Investment costs of the total refurbishment: Euro

Investment costs of the energy related refurbishment: Euro

Share of public and private funds:

% public, % private

Share of own resources and third party financing:

% of own resources, % by third party financing

Energy costs before and after the refurbishment:

Before: Euro/a, after: Euro/a

E.2.5 Which planning methods and planning tools have been applied?

- 
- 
- 

E.2.6 Are photos of the building before and after the refurbishment available?

yes  no

E.3 Good practice Example #3:

E.3.1 General information

Address:

Number of dwellings: Total heated floor area: m<sup>2</sup>

Year of construction: Year of refurbishment:

This project is "innovative", because

E.3.2 Energy related indicators

Energy performance of the building before and after the refurbishment (without domestic hot water – DHW):

before: kWh/m<sup>2</sup>.a, after: kWh/m<sup>2</sup>.a

Reduction of CO<sub>2</sub>-emission after the refurbishment (in t/a and in %):

- t/a, - %

Heating system before and after the refurbishment:

before: , after:

DHW system before and after the refurbishment:

before: , after:

Has a monitoring system been installed before and after the refurbishment of the building?

before:       yes       no

after:         yes       no

### E.3.3 Description of energy related activities

Insulation of:            with            cm insulation

Insulation of:            with            cm insulation

Insulation of:            with            cm insulation

Replacement of:

Installation of:

Improvement of:

Training / information of residents:

           :

           :

           :

### E.3.4 Financial indicators:

Investment costs of the total refurbishment:            Euro

Investment costs of the energy related refurbishment:            Euro

Share of public and private funds:

          % public,            % private

Share of own resources and third party financing:

          % of own resources,            % by third party financing

Energy costs before and after the refurbishment:

Before:            Euro/a,            after:            Euro/a

### E.3.5 Which planning methods and planning tools have been applied?

▪

▪

▪

E.4 Are photos of the building before and after the refurbishment available?

yes       no

## Part F Cost Data Base

### F.1 Investment costs

Nr.	activity	net amount	reference	VAT	gross amount	average life
[-]	[-]	[€]		[%]	[€]	[a]
1	insulation of floor over earth		/m <sup>2</sup> floor		0	
2	insulation of wall to earth		/m <sup>2</sup> wall		0	
3	insulation of wall to unheated room		/m <sup>2</sup> wall		0	
4	insulation of cellar floor		/m <sup>2</sup> floor		0	
5	insulation of outer wall		/m <sup>2</sup> wall		0	
6	replacement of windows		/m <sup>2</sup> window		0	
7	replacement of main entrance door		/m <sup>2</sup> door		0	
8	insulation of attic floor		/m <sup>2</sup> floor		0	
9	insulation of wall to unheated loft		/m <sup>2</sup> wall		0	
10	insulation of pitch of the roof		/m <sup>2</sup> roof		0	
11	insulation of flat roof		/m <sup>2</sup> roof		0	
12	insulation of floor over air		/m <sup>2</sup> roof		0	
13	installation of a condensing gas-boiler		/kW		0	
14	installation of a gas-boiler		/kW		0	
15	installation of a condensing oil-boiler		/kW		0	
16	installation of a oil-boiler		/kW		0	
17	installation of a district heating station		/kW		0	
18	installation of a pellets-boiler		/kW		0	
19	installation of a biomass-boiler with heat storage		/kW		0	
20	installation of an electric heatpump		/kW		0	
21	installation of a solar system for hot water supply		/m <sup>2</sup> collector		0	
22	installation of a solar combi system (for hot water & heating)		/m <sup>2</sup> collector		0	
23	insulation of piping		/m pipe		0	
24	installation of thermostatic valve		/ valve		0	

table 1: survey of investment costs

## F.2 Fuel costs for heating and domestic warm water

Nr.	heating system	fuel	unit	fuel costs			total energy costs		
				net amount	energy content	efficiency of heating system	net amount	VAT	gross amount
[-]	[-]	[€]	[...]	[€/...]	[kWh/...]	[%]	[€/kWh]	[%]	[€/kWh]
1.1.	central heating	biomass	pm						0,00
1.2		pellets	kg						0,00
1.1.		district heating	kWh						0,00
1.3		oil	l						0,00
1.1.		gas	m <sup>3</sup>						0,00
1.4		heat pump	kWh						0,00
2.1	individual central heating	biomass	pm						0,00
2.2		pellets	kg						0,00
2.3		district heating	kWh						0,00
2.4		oil	l						0,00
2.5		gas	m <sup>3</sup>						0,00
3.1	stove heating	biomass	pm						0,00
3.2		pellets	kg						0,00
3.3		oil	l						0,00
3.4		gas	m <sup>3</sup>						0,00
3.5		electricity	kWh						0,00
3.6		coal	kg						0,00

table 2: survey of fuel costs

## F.3 Operating costs and other costs:

Total operating costs on an average: /m<sup>2</sup> total floor area

If available, detailed information on operating and other costs may be collected in table 3.

Nr.	cost category	net amount	VAT	gross amount
[-]	[-]	[€/per total floor area]	[%]	[€/per total floor area]
1	land tax			0
2	refuse disposal			0
3	waste water			0
4	fresh water			0
5	electricity			0
6	cleaning and care of building			0
7	building assurance			0
8				0
9				0
10				0
11				0
12				0
	total			

table 3: survey of operating costs and other costs

## **Part G Summary**

Please describe the main facts on sustainable retrofitting in your region (approx. 1 to 1 ½ pages):

What is the status quo of the regulatory framework and the economic condition related to sustainable retrofitting of social housing in your region?

What are the main barriers for sustainable retrofitting in social housing in your region?

What are the potential drivers to improve the situation for retrofitting of social housing buildings in your region?

Which innovative legal regulations or financial schemes have high potential of transfer of know-how?