



D 3.2

Energy renovation process

Overview of SHELTER Social Housing Organisations

Models of coordination

SHELTER

Social Housing organisation and European professionals Linked and acting together for Testing and promoting professionals coordination in Energy Renovation

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1. Introduction

This report aims to model the current energy renovation processes by social housing organisations. This report is part of the Shelter European project that aims to look for new procedures to improve coordination and cooperation in energy renovation processes for social housing. Six social housing organizations of five different countries, three professional federations and one research centre participate in this project.

Social Housing Organisations

ARTE Genoa, Italy

Black Country Housing Group (BCHG), United Kingdom

Bulgarian Housing Association (BHA), Bulgaria

Dynacité, France

Logirep, France

Walloon Housing Association (SWL), Belgium

EU Professional Federations

Architect's Council of Europe (ACE)

CECODHAS, The federation of public, cooperative and social housing

European Builders Confederation (EBC)

Research Centre

OTB Research Institute for the Built Environment, Delft University of Technology, the Netherlands

In the Shelter project energy renovation is considered as major renovation works resulting in a significant improvement of the energy performance of the building and an extension of the service life. A large number of social housing organisations are nowadays commonly developing this kind of renovations.

In order to model the energy renovation process the renovation projects of the Shelter SHOs have been analyzed. The actors involved have been listed and the main tasks for every actor have been described in time. Moreover, the relations among the different actors have been categorized. This report complements the report WP3.1, where an overview about the energy renovation processes in the Shelter SHOs is presented.

The information presented in this report has been gathered through the use of an extensive questionnaire and interviews among employees of the different SHOs and other actors involved in their renovation processes.

2. Current Shelter SHOs energy renovation processes

The six SHOs analysed in this report are from a different nature. See Table 1. Four of them are entities that own dwellings and manage them: ARTE Genoa, Dynacité, Logirep and BCHG. The first two are public entities, the other two are private non-profit entities. SWL is the umbrella organisation of all SHOs in the Walloon region. SWL is in charge of funding, guiding and supervising them in name of the Walloon government, thus is a public entity. BHA is an independent, private, non-profit organisation that looks to facilitate an overall housing reform in Bulgaria. BHA acts as promoter and/or advisor of various projects looking for this goal. (More information about the characteristics of the different Shelter SHOs is presented in report 3.1)

| | Country | Type of SHO | Number of dwellings |
|----------|--------------------------|--|----------------------------------|
| ARTE | Italy | Public SHO | 12,100 |
| BCHG | United Kingdom | Private non-profit | 1,800 |
| BHA | Bulgaria | Private non-profit | 0 |
| Dynacité | France | Public SHO | 23,39 |
| Logirep | France | Private SHO | 32,200 |
| SWL | Belgium (Walloon region) | Public SHO, (Umbrella organization for Walloon SHOs) | 104,000 Owned by Walloon SHOs |

Table 1. General characteristics of Shelter SHOs, country, type and number of dwellings

Every SHO has a different energy renovation process. Even more, some SHOs have more than one energy renovation process, as it is the case of ARTE Genoa and BCHG. The different processes analysed are summarized in Table 2.

| SHOs | Energy renovation processes |
|----------|--|
| ARTE | P1 - Major renovation in historic buildings P2 - Major renovation in non historic buildings |
| BCHG | P3 - Planned maintenance P4 - Major renovation mainly financed by carbon saving tax P5 - Major renovation mainly financed with own funds |
| BHA | P6 - Major renovation |
| Dynacité | P7 - Major renovation |
| Logirep | P8 - Major renovation |
| SWL | P9 - Major renovation |

Table 2: Energy renovation processes by Shelter SHOs

In this chapter the different processes are presented by tables that summarize the task performed by the different actors involved. See Figures 1-8 and Tables 3-11.

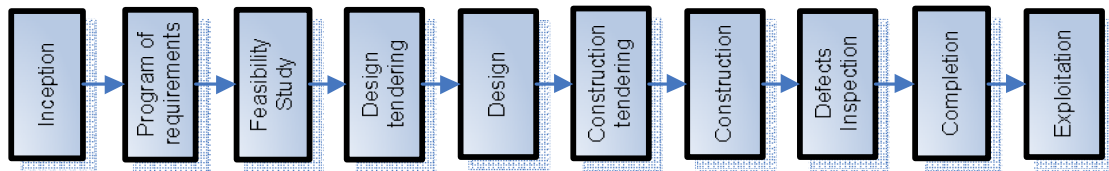


Figure 1: Phases of ARTE energy renovation processes P1 and P2.

| Actors | Duties | Phases | | | | | | | | | | |
|-----------------------------|-------------------------------------|--------|----|----|----|---|----|---|----|---|---|--|
| | | I | PR | FS | DT | D | CT | C | DI | C | E | |
| Social housing organization | Decision making | | | | | | | | | | | |
| | Finance | | | | | | | | | | | |
| | Design contract draw up | | | | | | | | | | | |
| | Project Monitoring | | | | | | | | | | | |
| | Design | | | | | | | | | | | |
| | Request construction permits | | | | | | | | | | | |
| | Workplace health and safety control | | | | | | | | | | | |
| | Maintenance | | | | | | | | | | | |
| Bank | Finance | | | | | | | | | | | |
| Municipality | Define Urban Renewal Zone | | | | | | | | | | | |
| | Finance | | | | | | | | | | | |
| | Give construction permits | | | | | | | | | | | |
| Regional Government | Finance | | | | | | | | | | | |
| National Government | Finance | | | | | | | | | | | |
| Insurance company | Insure | | | | | | | | | | | |
| Design / Engineering | Design | | | | | | | | | | | |
| | Technical Advise | | | | | | | | | | | |
| Construction companies | Construction | | | | | | | | | | | |
| Maintenance Companies | Exploitation/Maintenance | | | | | | | | | | | |
| Manufacturers | Advice | | | | | | | | | | | |
| | Building products and systems sells | | | | | | | | | | | |

Table 3: ARTE energy renovation process: P1 - Major renovation in historic buildings

| Actors | Duties | Phases | | | | | | | | | | |
|-----------------------------|-------------------------------------|--------|----|----|----|---|----|---|----|---|---|--|
| | | I | PR | FS | DT | D | CT | C | DI | C | E | |
| Social housing organization | Decision making | | | | | | | | | | | |
| | Finance | | | | | | | | | | | |
| | Design contract draw up | | | | | | | | | | | |
| | Project Monitoring | | | | | | | | | | | |
| | Design | | | | | | | | | | | |
| | Request construction permits | | | | | | | | | | | |
| | Workplace health and safety control | | | | | | | | | | | |
| | Maintenance | | | | | | | | | | | |
| Bank | Finance | | | | | | | | | | | |
| Municipality | Define Urban Renewal Zone | | | | | | | | | | | |
| | Finance | | | | | | | | | | | |
| | Give construction permits | | | | | | | | | | | |
| Regional Government | Finance | | | | | | | | | | | |
| National Government | Finance | | | | | | | | | | | |
| Insurance company | Insure | | | | | | | | | | | |
| Design / Engineering | Design | | | | | | | | | | | |
| | Technical Advise | | | | | | | | | | | |
| Construction companies | Construction | | | | | | | | | | | |
| Maintenance Companies | Exploitation/Maintenance | | | | | | | | | | | |
| Tenants | Consultation | | | | | | | | | | | |
| Manufacturers | Advice | | | | | | | | | | | |
| | Building products and systems sells | | | | | | | | | | | |

Table 4: ARTE energy renovation process: P2 - Major renovation in non historic buildings

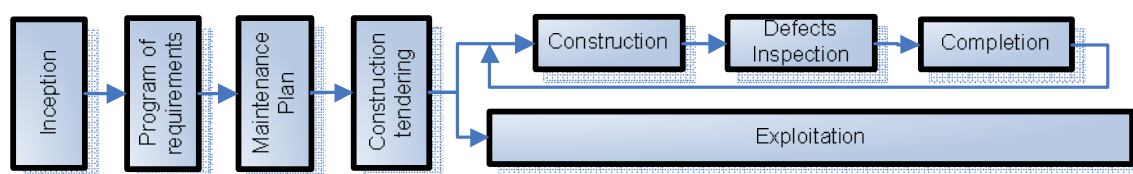


Figure 2: Phases of BCHG energy renovation process P3 – Planned maintenance

| Actors | Duties | Phases | | | | | | | | |
|-----------------------------|--------------------------------------|--------|----|----|----|---|----|---|---|--|
| | | I | PR | FS | CT | C | DI | C | E | |
| Social housing organization | Decision making | | | | | | | | | |
| | Schedule the planned maintenance | | | | | | | | | |
| | Finance | | | | | | | | | |
| | Project Supervision | | | | | | | | | |
| | Maintenance | | | | | | | | | |
| Bank | Finance | | | | | | | | | |
| Municipality | Give construction permits | | | | | | | | | |
| | Sign-off works | | | | | | | | | |
| National Government | Finance | | | | | | | | | |
| Insurance company | Insure | | | | | | | | | |
| Construction companies | Design decisions | | | | | | | | | |
| | Construction | | | | | | | | | |
| Maintenance Companies | Exploitation/Maintenance | | | | | | | | | |
| Tenants | Cohabitation with construction works | | | | | | | | | |
| | Feedback | | | | | | | | | |
| Manufacturers | Advice | | | | | | | | | |
| | Building products and systems sells | | | | | | | | | |

Table 5: BCHG energy renovation process: P3 - Planned maintenance

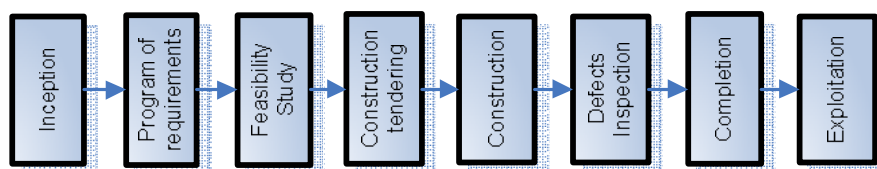


Figure 3: Phases of BCHG energy renovation process P4 – Major renovation mainly financed by carbon saving tax

| Actors | Duties | Phases | | | | | | | | |
|-----------------------------|---|--------|----|----|----|---|----|---|---|--|
| | | I | PR | FS | CT | C | DI | C | E | |
| Social housing organization | Decision making | | | | | | | | | |
| | Apply for grants from Carbon Saving tax | | | | | | | | | |
| | Finance | | | | | | | | | |
| | Project Supervision | | | | | | | | | |
| | Maintenance | | | | | | | | | |
| Municipality | Give construction permits | | | | | | | | | |
| | Sign-off works | | | | | | | | | |
| Insurance company | Insure | | | | | | | | | |
| Energy company | Finance (by carbon saving tax) | | | | | | | | | |
| | Construction contract draw up | | | | | | | | | |
| Construction companies | Design decisions | | | | | | | | | |
| | Construction | | | | | | | | | |
| Maintenance Companies | Exploitation/Maintenance | | | | | | | | | |
| Manufacturers | Advice | | | | | | | | | |
| | Building products and systems sells | | | | | | | | | |

Table 6: BCHG energy renovation process: P4 - Major renovation mainly financed by carbon saving tax

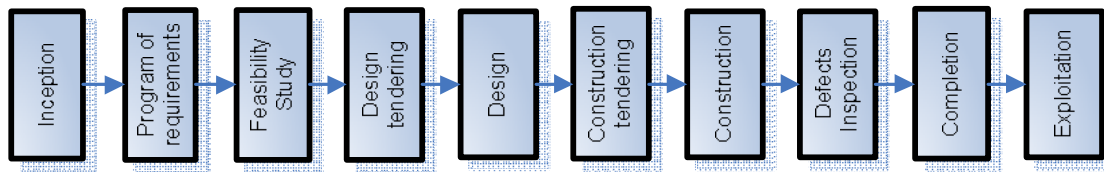


Figure 4: Phases of BCHG energy renovation process P5 - Major renovation mainly financed with own funds

| Actors | Duties | Phases | | | | | | | | | | |
|-----------------------------|-------------------------------------|--------|----|----|----|---|----|---|----|---|---|--|
| | | I | PR | FS | DT | D | CT | C | DI | C | E | |
| Social housing organization | Decision making | | | | | | | | | | | |
| | Finance | | | | | | | | | | | |
| | Project Supervision | | | | | | | | | | | |
| | Maintenance | | | | | | | | | | | |
| Cost consultant | Costs advice | | | | | | | | | | | |
| Employer agent | Contract draw up | | | | | | | | | | | |
| | Project management | | | | | | | | | | | |
| Bank | Finance | | | | | | | | | | | |
| Municipality | Give construction permits | | | | | | | | | | | |
| | Sign-off works | | | | | | | | | | | |
| National Government | Finance | | | | | | | | | | | |
| Insurance company | Insure | | | | | | | | | | | |
| Architect | Design | | | | | | | | | | | |
| | Construction supervision | | | | | | | | | | | |
| | Request construction permits | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Technical Consultants | Technical Advise | | | | | | | | | | | |
| Construction companies | Construction | | | | | | | | | | | |
| Maintenance Companies | Exploitation/Maintenance | | | | | | | | | | | |
| Manufacturers | Advice | | | | | | | | | | | |
| | Building products and systems sells | | | | | | | | | | | |

Table 7: BCHG energy renovation process: P5 - Major renovation mainly financed with own funds

Bulgarian Housing Association, BHA

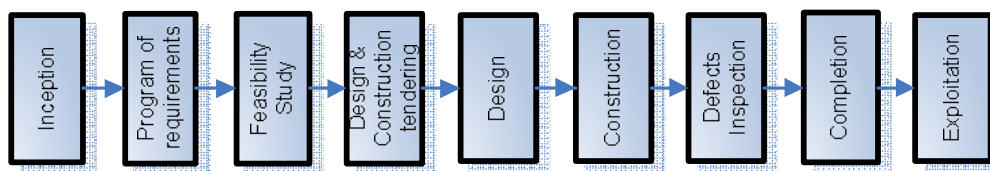


Figure 5: Phases of BHA energy renovation process P6 - Major renovation

| Actors | Duties | Phases | | | | | | | | | |
|--------------------------------|--|--------|----|----|-----|---|---|----|---|---|--|
| | | I | PR | FS | DCT | D | C | DI | C | E | |
| Home Owners Association | Achieve owners agreement | | | | | | | | | | |
| | Decision making | | | | | | | | | | |
| | Finance | | | | | | | | | | |
| | Design and construction contract draw up | | | | | | | | | | |
| | Project Monitoring | | | | | | | | | | |
| | Maintenance | | | | | | | | | | |
| BHA | Advice, guiding | | | | | | | | | | |
| Bank | Finance | | | | | | | | | | |
| Municipality | Finance | | | | | | | | | | |
| | Give construction permits | | | | | | | | | | |
| Regional Government | Finance | | | | | | | | | | |
| National Government | Finance | | | | | | | | | | |
| European Union | Finance | | | | | | | | | | |
| Architect / Engineering office | Design | | | | | | | | | | |
| | Technical Advise | | | | | | | | | | |
| | Request construction permits | | | | | | | | | | |
| | Construction supervision | | | | | | | | | | |
| Energy advisor | Energy audit | | | | | | | | | | |
| Insurance Company | Insure | | | | | | | | | | |
| Quality control company | Quality control | | | | | | | | | | |
| Construction companies | Construction | | | | | | | | | | |
| | Building site safety | | | | | | | | | | |
| Manufacturers | Advice | | | | | | | | | | |
| | Materials and equipment sells | | | | | | | | | | |

Table 8: BHA energy renovation process: P6 - Major renovation

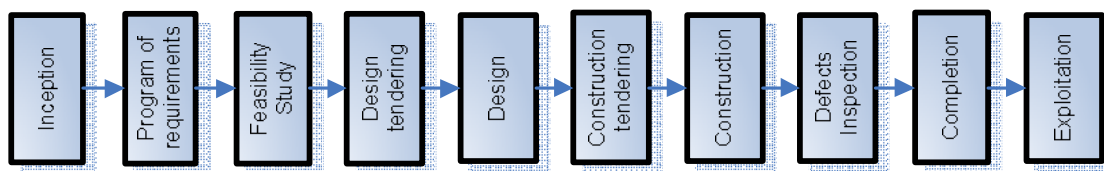


Figure 6: Phases of Dynacité energy renovation process P7 - Major renovation

| Actors | Duties | Phases | | | | | | | | | | |
|--|---|--------|----|----|----|---|----|---|----|---|---|--|
| | | I | PR | FS | DT | D | CT | C | DI | C | E | |
| Social housing organization | Decision making | | | | | | | | | | | |
| | Communication with the tenants | | | | | | | | | | | |
| | Finance | | | | | | | | | | | |
| | Design contract draw up | | | | | | | | | | | |
| | Project Monitoring | | | | | | | | | | | |
| | Maintenance | | | | | | | | | | | |
| Bank | Finance | | | | | | | | | | | |
| Municipality | Give construction permits | | | | | | | | | | | |
| Regional Government | Finance | | | | | | | | | | | |
| National Government | Finance | | | | | | | | | | | |
| Insurance company | Insure | | | | | | | | | | | |
| Project manager (<i>Maître d'œuvre</i>) | Design | | | | | | | | | | | |
| | Technical Advise | | | | | | | | | | | |
| | Communication with the tenants | | | | | | | | | | | |
| | Construction contract draw up | | | | | | | | | | | |
| | Request construction permits | | | | | | | | | | | |
| | Construction supervision | | | | | | | | | | | |
| Quality control company | Quality control | | | | | | | | | | | |
| Workplace health and safety company | Workplace safety | | | | | | | | | | | |
| Construction companies | Construction | | | | | | | | | | | |
| Maintenance Companies | Exploitation/Maintenance | | | | | | | | | | | |
| Tenants | Decision making | | | | | | | | | | | |
| | Proposals for the renovation works | | | | | | | | | | | |
| | Cohabitation with construction works | | | | | | | | | | | |
| | Cohabitation with maintenance companies | | | | | | | | | | | |
| Manufacturers | Advice | | | | | | | | | | | |
| | Building products and systems sells | | | | | | | | | | | |

Table 9: Dynacité energy renovation process: P7 - Major renovation

Logirep

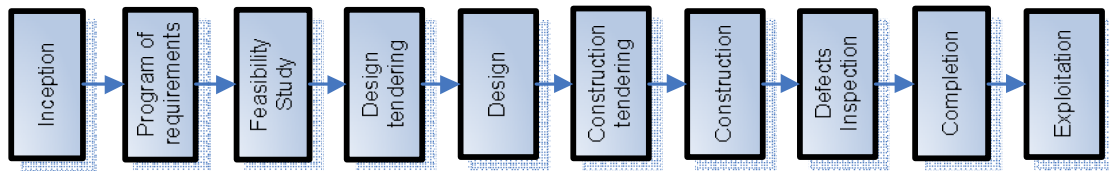


Figure 7: Phases of Logirep energy renovation process P8 - Major renovation

| Actors | Duties | Phases | | | | | | | | | | |
|--|--|--------|----|----|----|---|----|---|----|---|---|--|
| | | I | PR | FS | DT | D | CT | C | DI | C | E | |
| Social housing organisation | Decision making | | | | | | | | | | | |
| | Achieve tenants agreement | | | | | | | | | | | |
| | Finance | | | | | | | | | | | |
| | Design and construction contract draw up | | | | | | | | | | | |
| | Project Monitoring | | | | | | | | | | | |
| | Maintenance | | | | | | | | | | | |
| Bank | Finance | | | | | | | | | | | |
| Municipality | Give construction permits | | | | | | | | | | | |
| Regional Government | Finance | | | | | | | | | | | |
| National Government | Finance | | | | | | | | | | | |
| Insurance company | Insure | | | | | | | | | | | |
| Project manager (<i>Maître d'œuvre</i>) | Design | | | | | | | | | | | |
| | Technical Advise | | | | | | | | | | | |
| | Request construction permits | | | | | | | | | | | |
| | Construction contract draw up | | | | | | | | | | | |
| | Construction supervision | | | | | | | | | | | |
| Quality control company | Quality control | | | | | | | | | | | |
| Workplace health & safety company | Workplace safety | | | | | | | | | | | |
| Construction companies | Construction | | | | | | | | | | | |
| Maintenance Companies | Exploitation/Maintenance | | | | | | | | | | | |
| Tenant | Decision making | | | | | | | | | | | |
| | Cohabitation with construction works | | | | | | | | | | | |
| Manufacturers | Advice | | | | | | | | | | | |
| | Building products and systems sells | | | | | | | | | | | |

Table 10: Logirep energy renovation process: P8 - Major renovation

SWL

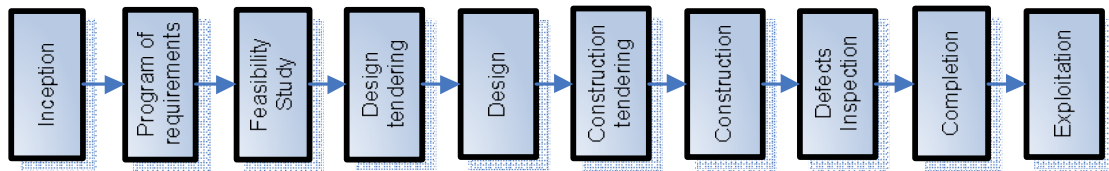


Figure 8: Phases of SWL energy renovation process P9 - Major renovation

| Actors | Duties | Phases | | | | | | | | | | |
|--|--|--------|----|----|----|---|----|---|----|---|---|--|
| | | I | PR | FS | DT | D | CT | C | DI | C | E | |
| Social housing organization | Decision making | | | | | | | | | | | |
| | Achieve tenants agreement | | | | | | | | | | | |
| | Finance | | | | | | | | | | | |
| | Design and construction contract draw up | | | | | | | | | | | |
| | Project Monitoring | | | | | | | | | | | |
| | Maintenance | | | | | | | | | | | |
| SWL | Management of funding | | | | | | | | | | | |
| | Guidance and guardianship | | | | | | | | | | | |
| Bank | Finance | | | | | | | | | | | |
| Municipality | Give construction permits | | | | | | | | | | | |
| Regional Goverment | Finance | | | | | | | | | | | |
| Insurance company | Insure | | | | | | | | | | | |
| Project manager (<i>Maître d'œuvre</i>) | Design | | | | | | | | | | | |
| | Technical Advise | | | | | | | | | | | |
| | Request construction permits | | | | | | | | | | | |
| | Construction contract draw up | | | | | | | | | | | |
| | Construction supervision | | | | | | | | | | | |
| Quality control company | Quality control | | | | | | | | | | | |
| Building site safety company | Workplace security | | | | | | | | | | | |
| Construction companies | Construction | | | | | | | | | | | |
| Maintenance Companies | Exploitation/Maintenance | | | | | | | | | | | |
| Tenant | Decision making | | | | | | | | | | | |
| | Cohabitation with construction works | | | | | | | | | | | |
| Manufacturers | Advice | | | | | | | | | | | |
| | Materials and equipment sells | | | | | | | | | | | |

Table 11: SWL energy renovation process: P9 - Major renovation

3. Actors involved in Shelter SHOs energy renovation processes and their duties.

Seven main types of actors involved in energy renovations in Shelter SHOs have been identified:

- Tenants
- Social Housing Organisations
- Investors: Banks, Municipalities, Governments, Energy Companies.
- Designers: Architects, Engineers, Consultants.
- Construction companies (including installation companies)
- Maintenance companies
- Manufacturers

Moreover, insurance companies are present too. Nevertheless, in respect of the current energy renovations processes insurance companies do not have a key role in shaping the renovation process. Therefore, they have not been taken into consideration among the main types of actors in this report.

Tenants

The tenants are present in the major part of the renovation processes analysed. The exceptions are some processes of ARTE and BCHG, where renovations take place during voids, and the renovation process of BHA where the inhabitants are home owners and not tenants.

In processes where the tenants are present, they are always informed of the works that are going to be done. Commonly the project is presented to them by the designers at the end of the design phase and they have the chance to express their opinion. However their influence on the design is rather small.

In the case of France it is necessary that the tenants give their official consent through a vote process in case the rent will be increased after renovation.

Social Housing Organisations

Social Housing Organisations are the main decision maker of the renovation processes, at exception of the Bulgarian case where the decisions are taken by the home owners. SHOs are in charge of:

- defining the renovation strategy of their stock
- looking for funding resources
- defining the works to be performed
- informing and achieving agreements with the tenants
- tendering and contracting designers, construction companies and maintenance companies
- supervising the works

In the case of ARTE Genoa the SHO is in charge of the design of the renovation works too because they have architects and engineers among their employees.

Investors

Different entities can act as investors: banks, municipalities, regional governments, national governments, EU and energy companies. These entities commonly cover a percentage of the costs of the energy renovation. Their investments conditions differs considerably among them.

Banks offer loans at a certain interest rate. Banks investing in social housing are commonly specialised banks that offers loans to public entities with a low interest rate. This is the case in Belgium, France and Italy.

The different governments: municipal, regional, national or European can act as investor too. The investments are applied by different kind of programs as it could be:

- subsidies related to a certain standard level,
- subsidies related to a certain energy label,
- subsidies related to implementation of renewable energy,
- or subsidies related to an urban renewal plan.

The subsidies cover a different percentage of the total costs of the renovation.

In recent years energy companies have become an investor for energy renovations in the UK. Energy companies collect taxes through their energy bills for this purpose.

Designers

The design and technical specifications of an energy renovation project are created by a designer. This designer could be an architect or an engineering office. Generally, the presence of an architect is mandatory only in the case that the structure of the dwelling is going to be modified.

Architect and engineering offices are usually assisted by consultancy firms in specific topics as it could be the structure, heating and cooling or renewable energy. Therefore, designers work commonly in a design team formed by different companies.

Construction companies

Different types of construction companies are involved in energy renovations projects. Among the cases analysed two types of companies are present: general contractors and specialized construction companies.

When only specialized companies are involved in a renovation project the coordination of the works is a task performed by the SHO, as is the case of BCHG and Dynacité. When there is a general contractor there are always specialized companies involved too, but they are related as subcontractors; the coordination of the works is done by the general contractor.

Maintenance companies

Shelter SHOs have commonly diverse maintenance contracts for responsive maintenance with different maintenance companies (heating systems, plumbing, roofing, elevators, etc.), that cover part or the totality of their properties over a certain period between 1 and 10 years.

Among the maintenance companies Energy Service Companies offer contracts related to the energy performance of the dwellings maintained. These contracts define an expected energy consumption and a system of bonus-malus in case the energy consumption is over or under the target.

Manufacturers

Producers and distributors of building products and systems are in contact with designers, constructors and maintenance companies in order to promote their products.

4. Relations among actors involved in Shelter SHOs energy renovation processes

In order to categorize the relations among the actors in the different energy renovation processes a rough differentiation in five degrees of interaction have been made. This categorization takes as a reference the citizen participation ladder defined by Arnstein (1969) and takes in account the alternatives proposed by Bigg's (1989). In total five levels have been defined: informative, contractual, consultative, collaborative and partnership.

In the relationship model the different categories stand for:






-  Informative: Information is offered without a specific request. One way flow of information, no feedback.
-  Contractual: A specific request is defined, an answer is offered and this answer is accepted or dismissed.
-  Consultative: A specific request is defined, several answers are offered and a choice is made.
-  Collaborative: The objectives are mutually defined. Nevertheless there is no share of the risk.
-  Partnership: The objectives are mutually defined and the risk is shared.

Figure 9: Degrees of interaction between energy renovation actors.

Most of the relations among actors of the analysed energy renovation processes of the SHOs are informative or contractual. Some are consultative or collaborative. Partnership relationships were not found. See figures 10 to 18.

Consultative relations are established generally between SHOs and designers. Commonly the SHO defines a program of requirements and request the designers to offer different possibilities to meet these requirements.

Consultative relations are established between SHOs and tenants too. As mentioned previously in this report usually the SHO presents the tenants the renovation plan. The tenants have then the chance to express their opinion about it.

Collaboration relationships are rear, established between SHOs and companies that have worked previously with them, as is the case of construction companies for BCHG and designers for Logirep. The long term relationships between designers or construction companies and SHOs are uncommon partly due to public procurement regulations that force to tender design and works. Nevertheless, a lot of projects are under the threshold defined by public procurement regulations or the SHO uses mechanism to pre-select companies and using framework contracts.

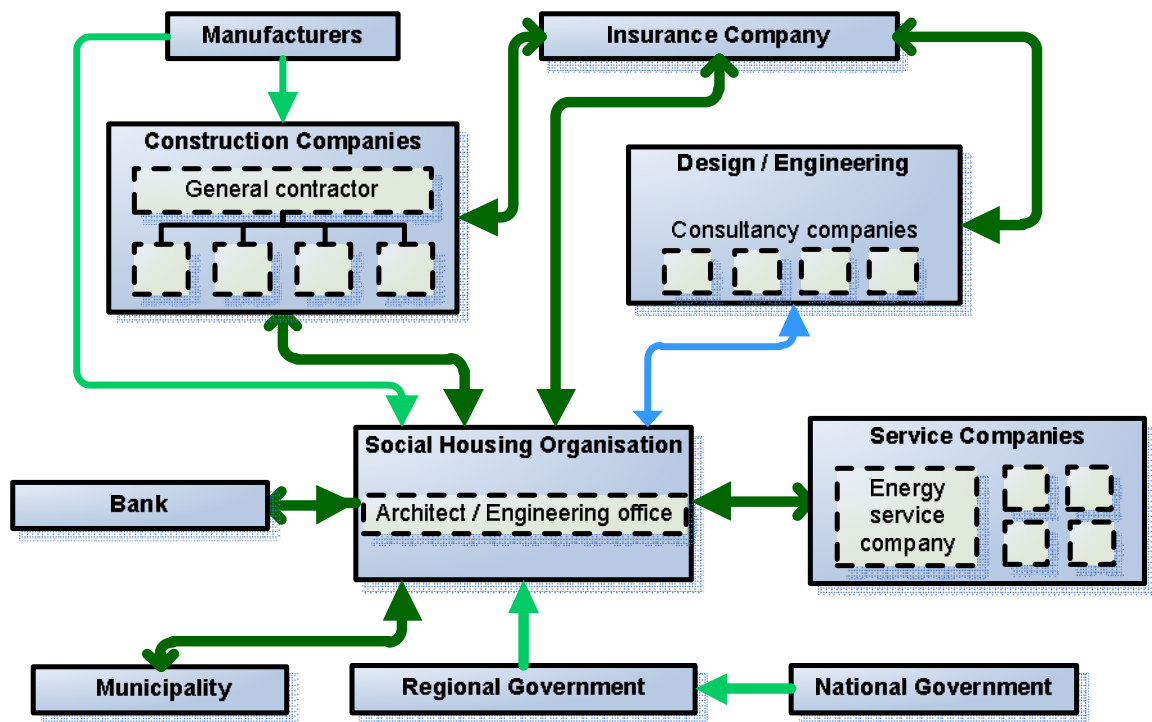


Figure 10: Relationship model of ARTE energy renovation process: P1 – Major renovation in historic buildings

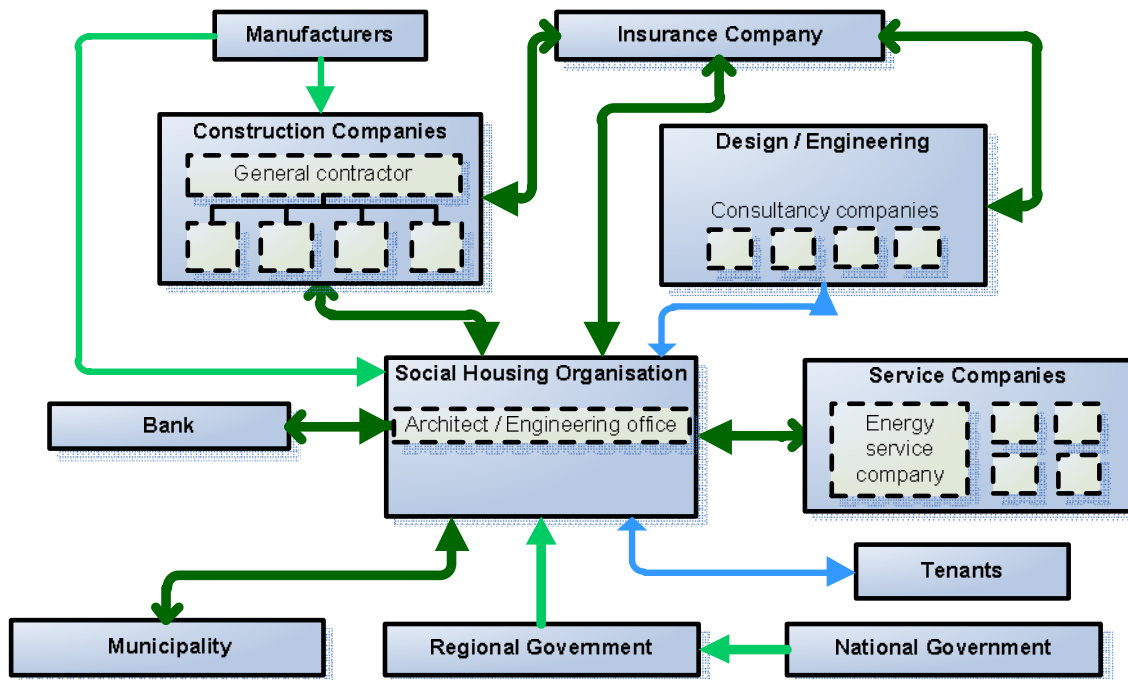


Figure 11: Relationship model of ARTE energy renovation process: P2 – Major renovation in non historic buildings

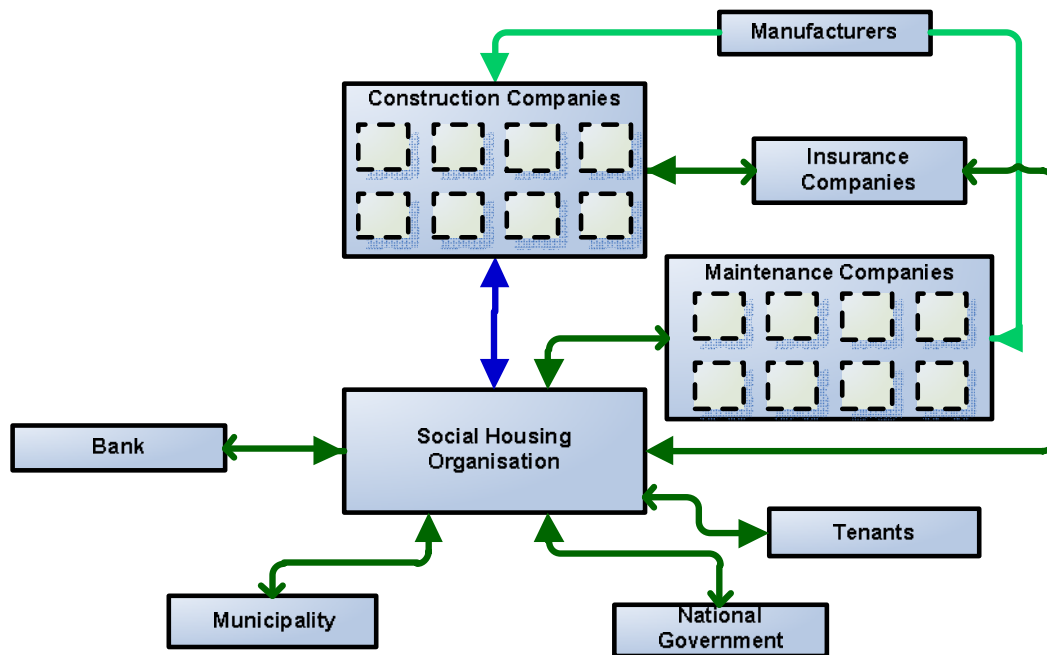


Figure 12: Relationship model of BCHG energy renovation process P3 – Planned maintenance

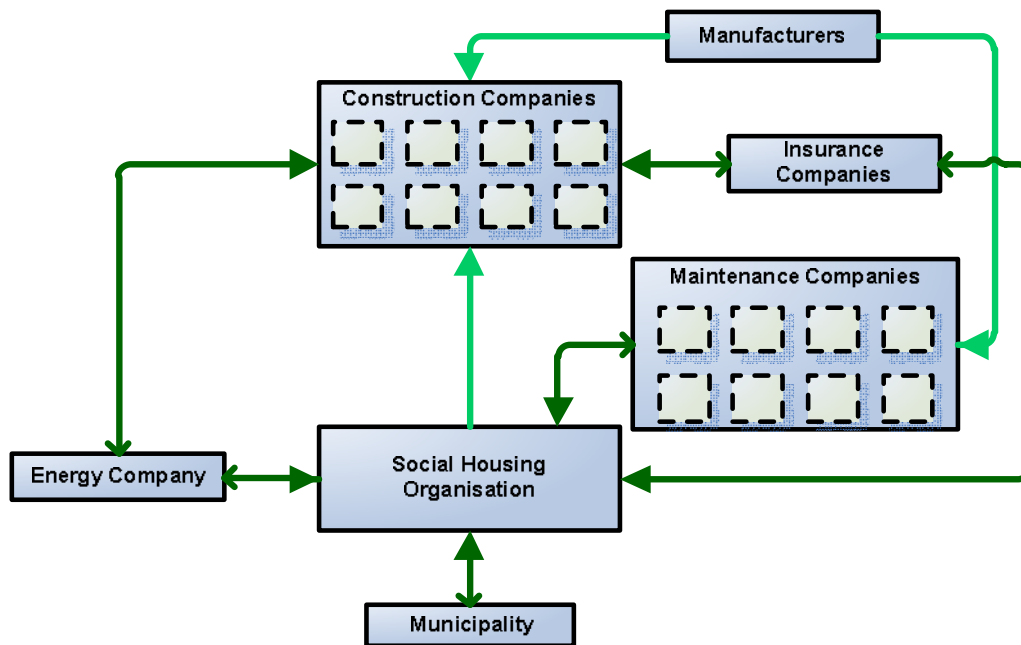


Figure 13: Relationship model of BCHG energy renovation process P4 – Major renovation mainly financed by carbon saving tax

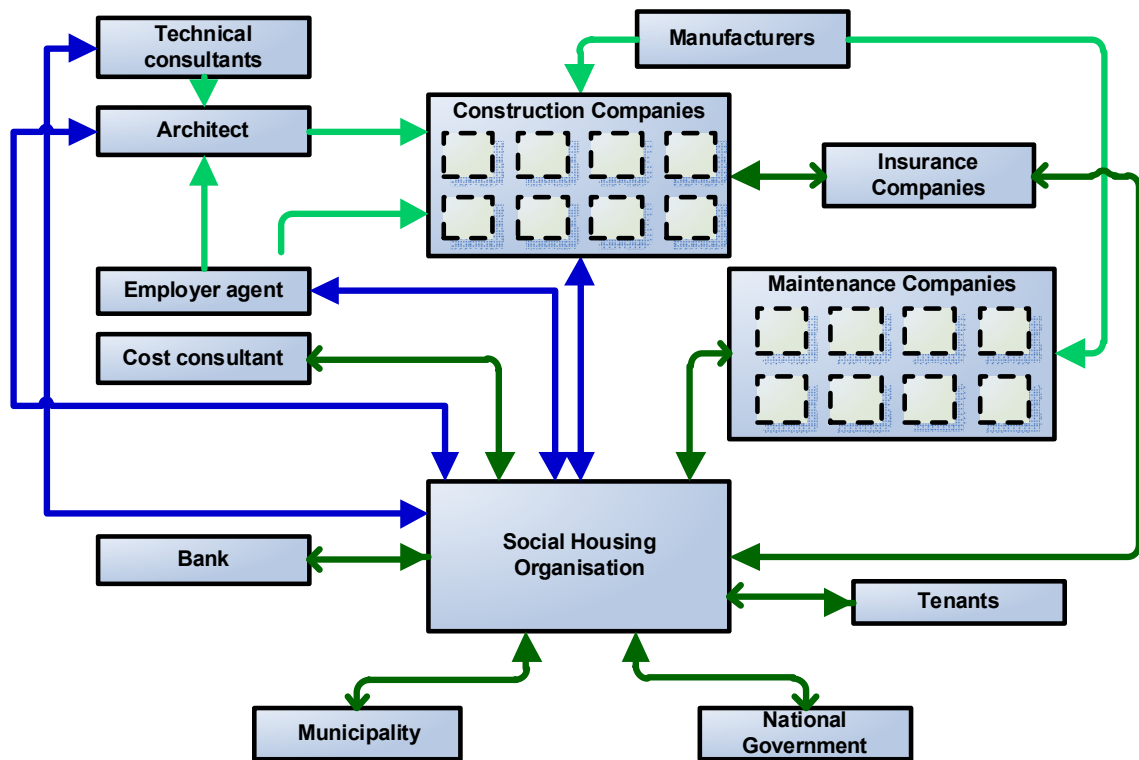


Figure 14: Relationship model of BCHG energy renovation process: P5 – Major renovation mainly financed with own funds

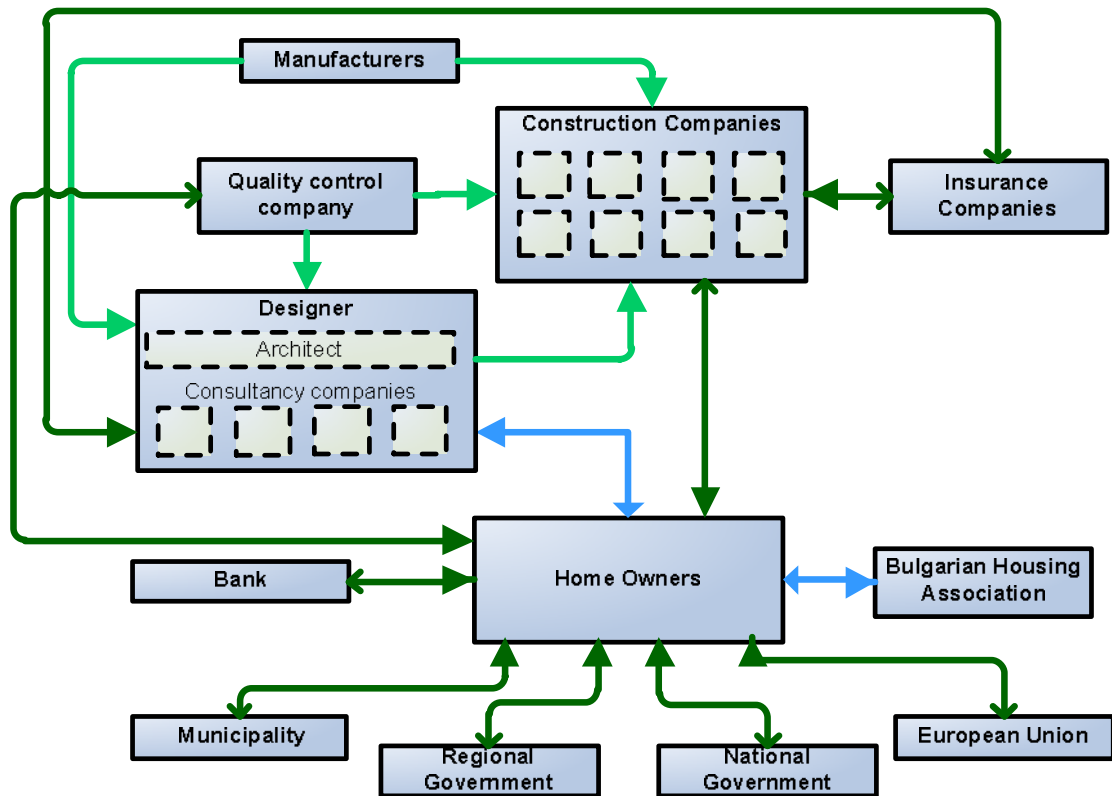


Figure 15: Relationship model of BHA energy renovation process: P6 – Major renovation

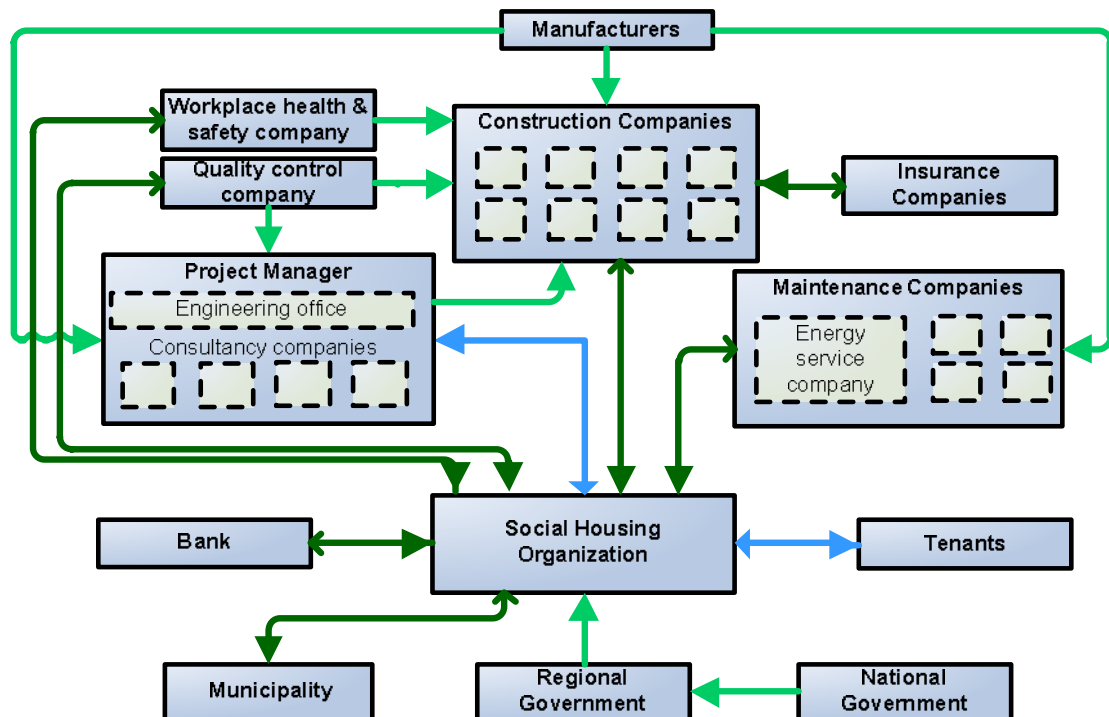


Figure 16: Relationship model of Dynacité energy renovation process: P7 – Major renovation

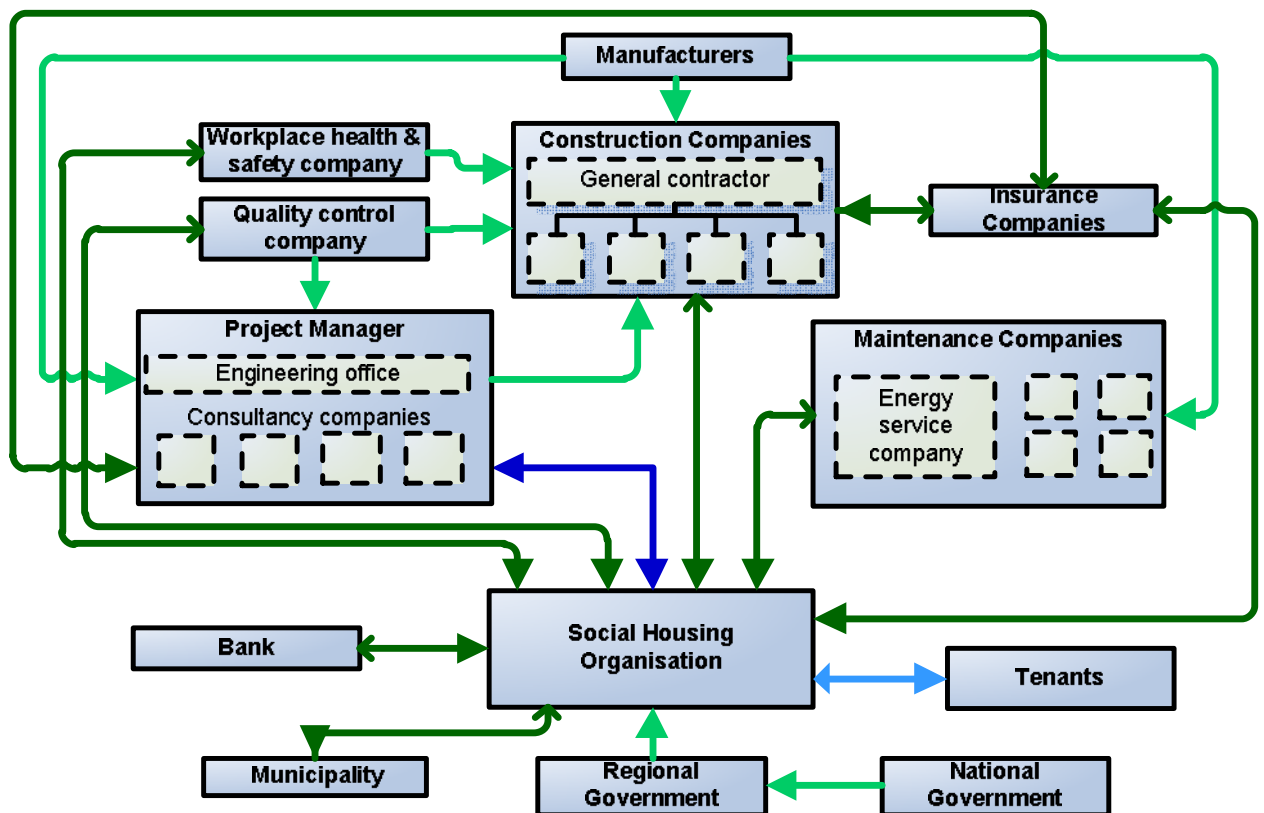


Figure 17: Relationship model of Logirep energy renovation process: P8 – Major renovation

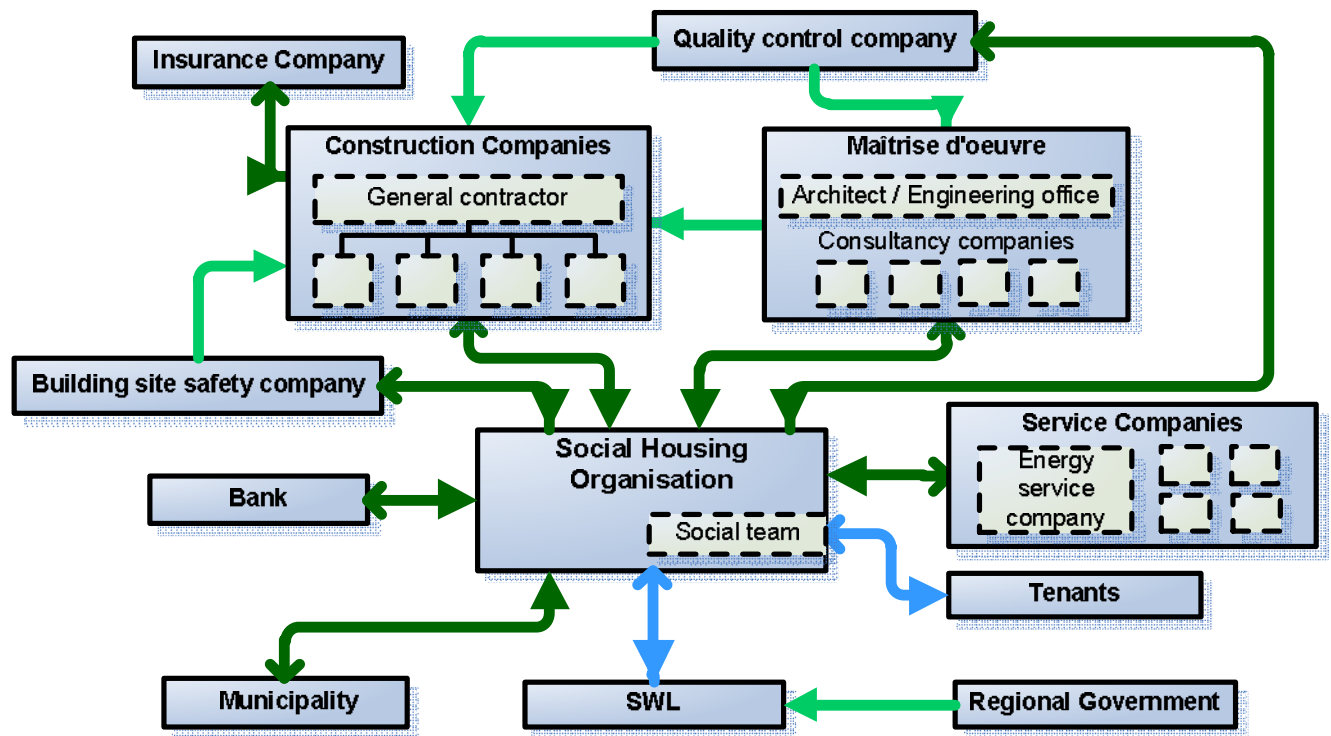


Figure 18: Relationship model of SWL energy renovation process: P9 – Major renovation

5. Conclusions

Among the different processes analysed two main types of renovation model have been identified:

- major renovations
- and planned maintenance.

Major renovation

Considering the renovation process from inception until exploitation it can be divided in four phases: planning, design, construction and maintenance. See Figure 19. During this process seven main types of actors are present:

- Tenants
- Social Housing Organisation
- Investors: Banks, Municipalities, Regional Government, National Government, Energy Companies.
- Designers: Architects, Engineers, Consultants.
- Construction companies (including installation companies)
- Maintenance companies
- Manufacturers

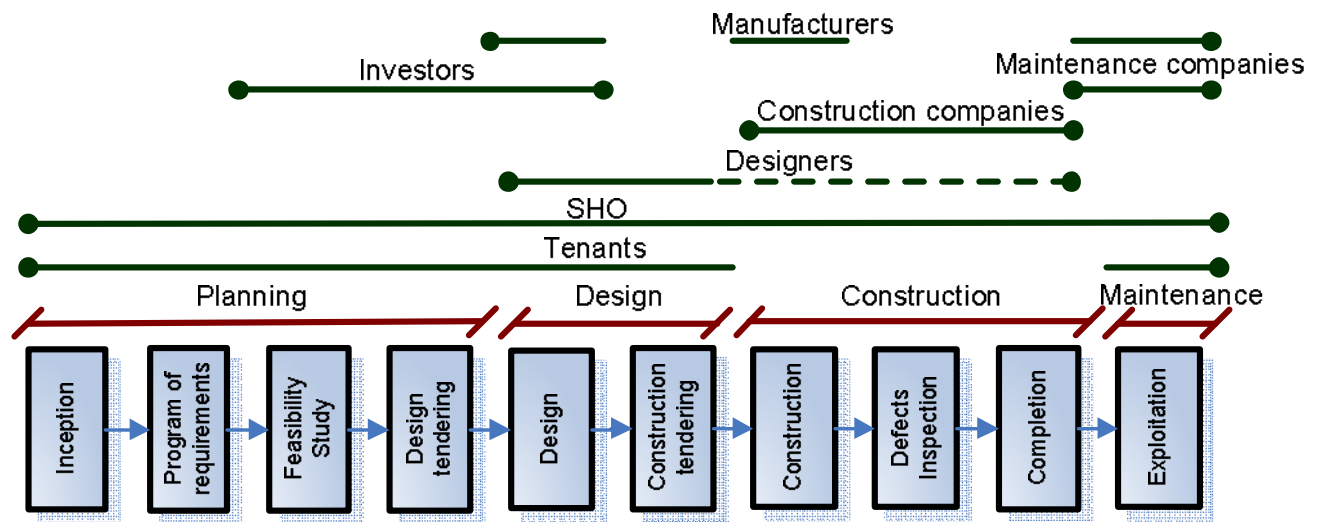


Figure 19. Major renovation process. Phases and actors present in every phase

Major renovation occurs mainly in empty properties, and the tenants have commonly a minor possibility to participate in the design decisions. In effect, only the SHO and the designers participate in the design decisions. Construction companies and maintenance companies get involved into the project once the design is completely defined. The communication between designers, construction companies and maintenance companies is mainly by technical reports and specifications.

Planned maintenance

Planned maintenance can be considered being a renovation strategy in the case that after execution of a long-term maintenance plan the condition status of the elements affected are the same than after a major renovation.

In planned maintenance the different interventions, e.g. renovation of the kitchen, renovation of the heating system, insulation of walls and roofs are done independently in different moments of time. See Figure 20. Thus every action takes only a few days and commonly the dwellings stay occupied while the intervention takes place. Moreover, as standard technical solutions are applied commonly there are no designers and there is no design phase.

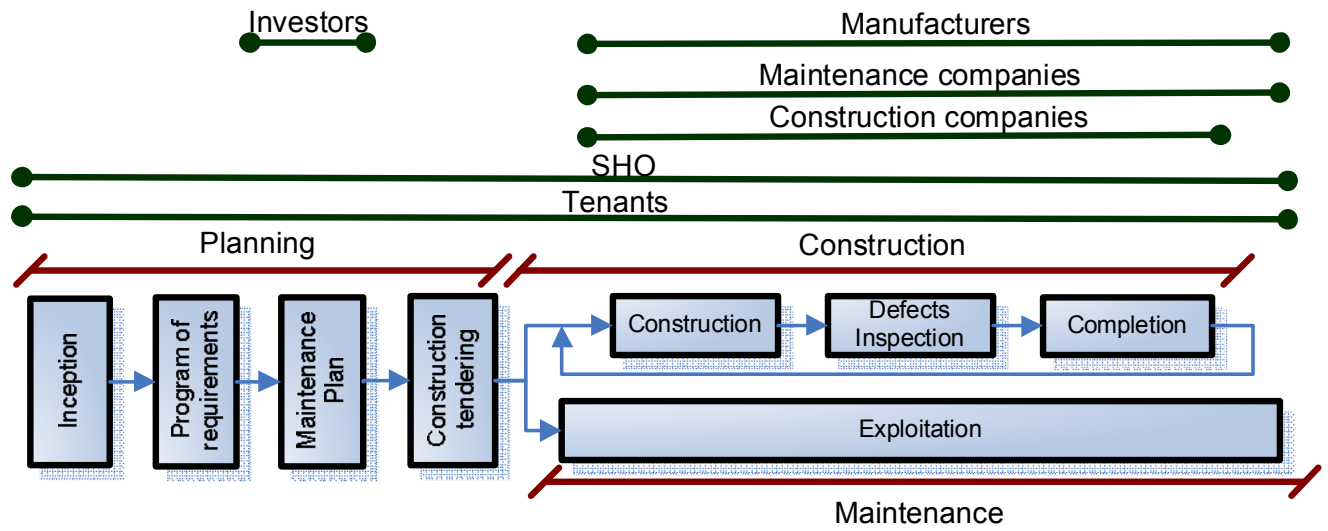


Figure 20. Planned maintenance. Phases and actors present in every phase

References

Interviews

In order to gather the information presented in this report several semi-structured interviews have been done with members of the different SHO and with other actors involved in their renovation processes. Moreover at least two past renovations and one future renovation case have been visited for every one of them. In this references chapter the people which participated in the interviews and workgroup meetings in the different visits are listed.

An individual report was made for every one of the SHOs participating in the Shelter project. In these reports their renovation processes are described and analysed in depth. They are available under request at www.shelterproject-ieee.eu .

* Interviews (I), Workshops (W) and case study visits (v)

ARTE Genoa – 15-16th February 2011

- Giordano Bertelà, Project manager. (I) (v)
- Tulliola Guglielmi, Officer. (I) (v)
- Giovanni Paolo Spanu, Technical and maintenance director. (W)
- Dario Rinotti, Officer. (I) (v)
- Sergio Torre, Investments department director. (W)

- Claudio Montagni (Architecture office)
Claudio Montagni, Architect. (I)

- Cofely GDFSuez (ESCO, Energy Service Company)
Massimiliano Centanaro, Manager. (I)

- Marco Mantovani, Engineer. (I)

- Marcolini & Barsoti (Architecture office)
Giampolo Marcolini, Architect. (I)

- Villa & Cevasco (Engineering office)
Franco Cevasco, Engineer. (I)

BHA – 7-10th February 2011

- Eleonora Gaydarova, Manager international projects (I) (W)(v)
- George Georgiev, Manager (I) (W) (v)

- Avança, Maintenance company
Bojidar Pampulov, General Manager (I)

- Black Sea Regional Energy Centre
Angel Nikolaev, Director (I)

- Bies, Consulting company for energy efficiency

Rosen Malchev, Manager (I)

- EnEffect, Center for Energy efficiency
Zoya Giurova, Chief Secretary, Project coordinator (I)
- Home Owners Association block 25 Zaharna Fabrika housing estate.
Maria Miletieva, Chairwoman (I)
- Konkurent - 90, Architecture office
Bisser Hantov, Manager (I)
- SFO, Construction Company
Orlin Nojarov, Manager (I)

BCHG – 6-8th December 2010

- Richard Baines, Director of Sustainable Development (I) (v)
- Mark Humphries, Project Manager (I)
- Jackie O’Callahan, Asset Manager (I)
- Tony Portman, Maintenance Surveys Manager (I)

- Birmingham City Council
Bill Goodfellow, Project Manager (I)

Neil Morton, Business Manager(I)

- Bourneville Village Trust Green Team
Participation in one of their meetings.
- Dudley Metropolitan Borough Council
Paul Griffiths, Head of Investment (I)
- Gruhe (Architects practice)
Pearl Cooray, Architect (I)
- Kaushal Builders (Construction company)
Josh Kaushal, Director(I)

Dynacité – 8-10th November 2010

- Bénédicte Chaillot, Head assistant for the Rehabilitation Sector. (W)
- Yves Galiègue, Project manager (Real estate management department) (I)(W)(v)
- Bernard Guthmann, Responsible of the contract Unit (W)
- Patricia Houdril, Head of the Property Construction and Rehabilitation Sector (W)
- Jaques Laffont, Responsible of the Contracts Managing Department (I)(W)(v)
- Véronique Leteneur, Head of Real-estate Management Department (W)
- Didier Michon, Project manager (Rehabilitation sector) (I)
- Bernard Mouton, In charge of dwellings’ monitoring in the area of Jassans-Riottier (v)
- Climsanit (Construction company)
M. Pujol Director of the company (I)
- Dalkia (ESCO, Energy Service Company)
Laurent Champenois, Technical assistant at DALKIA (I) (v)

Christian Darne, Technical Responsible, monitoring the area of Jassans-Riottier (I) (v)

Patrick Legay, Technical Responsible, monitoring the area of Bourg en Bresse (I) (v)

- Dupaquier (Energy consultancy)
M. Mansot, Technical advisor (I)
- Isobase (Engineering company)
M. Veyre, Technical advisor (I)

Logirep – 24-26th November 2010

- Mathieu Boiron (W)(I)(v)
- Gilles Colpart, Finance Director (I)
- Christian Maillet, Urban Renovation (I)
- Angela Ruiz (W)(v)
- Pierre Touya (W)
- AB Consultants (Engineering consultancy)
Patrick Delinger (I)

A. Paoli (i)(V)
- BASF (Chemical company)
Nathalie Jordy, Project management & support energy efficiency and construction (I)
- G. Roux architecte (architect)
G. Roux
- Placo (Plasterboard manufacturer)
Céline Guéret, Responsible Service Marketing (I)
- SEC (Energy Services Company)
Alain Puybureau, Exploitation Director (I)

SWL – 24-26th January 2011

- Renaud Batta, Controller - monitoring sites - project management and support (I) (v)
- Jean François Letor, Coordinator of the Real Estate Department (I)
- Didier van der Haar, Inspector general of Real Estate Department (I)
- Ingrid Marteleur, Architect, Technical Coordination (I) (v)
- Manuel de la Orden, Legal assistant – DG – Research, Development & Strategy Service (W)
- Frédéric Sevrin, Legal adviser – DG – Research, Development & Strategy Service (W)
- Anne Spilliaert, Architect, Chief supervisor, monitoring site – project management and support (I)
- AIB Vinçotte (Engineering office)
Christophe Mulier, Engineer (I)
- Bureau Vanhaeren (Architect's office)
Mr. Vanhaeren, Architect (I)
- Société du Roman Païs (Housing Society of Public Service)
Julie Boulard, Social team for Tubize (I)

Marie-José Martín García, Social team for Tubize (I)

Pol Rochefort, Director (I)

- S.A. Galère (Construction company)
Emmanuel Franc, Project Manager (I)

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