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# D2.3

## Retrofit Bundling Report



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## 0. Publishable Summary.

In the HAPPI project a total of 160 energy retrofitting projects have been identified and approved by the tenants in the 6 partner housing associations. All 160 energy projects have been evaluated to see, which projects could be suitable to participate in a bundling tendering process among different housing associations and different departments within the housing associations.

The advantage bundling energy retrofitting projects is, that housing associations can expect a cheaper implementation price, because the amount of components in bundled tendering is bigger compared to individual tender projects, and the contractor can plan the work in a better and more efficient way in a bigger project.

It is expected, that the housing associations can get a price reduction of 10 -15 % by bundling similar projects instead of contracting individual projects one by one.

Energy retrofitting projects can be bundled among two or more housing associations or among different departments within a housing association.

If two or more different housing associations decide to bundle implementation of their planned energy retrofitting projects, they need to form a common client group with representatives from the management in each housing association.

The client group has the overall management of the common bundled projects.

The offer/tender document to be completed by the invited contractors needs to be specified with prices for each of the participating departments.

A price for each department is needed and then also an alternative lower price, if all departments approve the offer for their individual department.

The price reduction, if all or a majority of the departments accept the offers, can be divided among the departments.

The offers can only be approved by voting by the tenants in each of the participating departments.

If the calculated expected energy saving per m<sup>2</sup> room is higher than the increase in rent per m<sup>2</sup> room due to the investment, then the tenants normally approve the proposal and the offer.

Sometimes a proposal can also be approved, even if the energy saving is less than the increase in rent. This can be in situations, where the investment also results in better indoor climate, or if the investment has great effect on the climate change.



## Table of Content

0. Publishable Summary	3
1. Introduction	5
2. Overall planning of bundled projects	6
3. Common client group	6
4. Common consultant and tender	6
5. Tender documents	7
6. Approval process	8
7. Contracting bundling projects	8
8. Implementation phase	9



## 1 Introduction

In the HAPPI project a total of 160 energy retrofitting projects have been identified and approved by the tenants in the 6 partner housing associations. All 160 energy projects have been evaluated to see, which projects could be suitable to participate in a bundled tendering process among different housing associations and different departments within the housing associations.

The following energy retrofitting measures are evaluated to be most suitable for a bundling process with common tendering and implementation:

- New low-energy windows and outer doors.
- New individual heat exchangers for district heating.
- Heating automatic equipment.
- New radiator thermostats.
- New energy efficient circulation pumps.
- New energy saving electrical equipment in apartments.
- LED lighting.
- Conversion of gas boilers to green district heating.
- Conversion of gas boilers to heat pumps.
- Solar photovoltaic systems for buildings.

These measures are suitable, because often they are not dependent of other ongoing building construction works done by other sector of craftsmen.

The advantage bundling energy retrofitting projects is, that the housing association can expect a cheaper construction price, because the amount of components in bundled tendering is bigger compared to individual tendered projects, and the contractor can plan the work in a better and more efficient way in a bigger project.

It is expected, that the housing associations can get a price reduction of 10 -15 % by bundling similar projects instead of contracting individual projects one by one.

*In this deliverable D2.3 a general bundling process is described.*

*In deliverable D2.6 a specific bundling process with solar photovoltaic systems in 3 housing associations is described in details, and the developed tender documents are explained and attached.*



## **2 Overall planning of bundled projects**

Energy retrofitting projects can be bundled among two or more housing associations or among different departments within a housing association.

Today it is more usual to bundle projects among departments within the same housing association, because these departments normally have a common administration and common building expertise.

However each department is a legal entity, and the tenants in each department decide themselves, if they want to approve and invest in energy retrofitting projects.

It is of course more complicated to bundle projects among different housing associations, which have their own management structure, own financing methods, own habits and own experiences.

## **3 Common client group.**

If two or more different housing associations decide to bundle implementation of their planned energy retrofitting projects, they need to form a common client group with representatives from the management in each housing association.

The client group has the overall management of the common bundled project

The first action for the client group is to engage a common consulting engineer or architect, who can assist and be secretary of the client group, and who can prepare a description of the common project.

## **4 Common consultant and tender process.**

The first phase for the consultant is to discuss the visions, wishes and expectations with the client group.

Based on that the consultant can prepare a preliminary description of the common project and get this description approved by the client group.

Normally the client group can decide and approve the preliminary description, which will be the background for preparation of the tender documents.

Next phase is the preparation of the tender documents, which will be done by the consultant.



The client group decides, which contractors/suppliers should be invited for the tender.

If it is a smaller project with an expected investment less than 4-5 million Euro, then the client group can decide to invite 3-4 contractors to bid, whereas at least one contractor has to be based outside the home municipality for the housing associations.

If it is a bigger project with an investment more than 4-5 million Euro, then the client group has to go through a prequalification process, where the tender is officially announced in the public media.

In this situation all interested contractors can submit their qualification documents, and based on that, the client group normally can invite 5 contractors to participate in the tender.

The salary to the consultants is divided among the participating housing departments according to the size of the individual construction investments.

## 5 Tender documents

The tender documents include:

- Invitation to contractors/suppliers to participate in the tender.
- Description of the tender process with criteria, requirements, legal topics, deadlines etc.
- Detailed description of the project/work to be done by the contractor.
- Expected or required timeline for implementation of the project.
- Document with the offer from the contractor to be completed and signed.

The offer document to be completed by the invited contractors needs to be specified with prices for each of the participating departments.

There needs to be an offer/price for each department and then a price, if all the departments approve the offer for their individual department.

The situation is, that the client group can not approve the offer on behalf of the departments.

Only the tenants in each department can approve an offer at a general tenant meeting.

The price reduction, if all or a majority of the departments accept the offers, can be divided among the departments according to the size of the individual investments.

The consultant should prepare the timeline for the implementation phase in a way, that it is feasible for the contractor to submit a common offer for all the departments.



## 6 Approval process

The financial offers can only be approved by the tenants in each of the participating departments.

Therefore a bundling process is also dependent on different time planning in the participating housing associations. All departments have to approve the proposed projects and financial offers, and normally each department has only one annual general meeting, where projects can be presented for approval.

The normal procedure for approval of energy retrofitting measures:

- The administration calculates the increase of the rent per m<sup>2</sup> room due to the investment in energy measures.
- The consultant calculates the expected energy saving per m<sup>2</sup> room due to the energy retrofitting measures.
- If the expected energy saving per m<sup>2</sup> is higher than the increase in rent per m<sup>2</sup>, then the tenants normally approve the proposal and the offer.
- A proposal can also be approved, even if the energy saving is less than the increase in rent. This can be in situations, where the investment also results in better indoor climate, or if the investment has great effect on the climate change.

At the tenant meetings the proposal/offer is approved, if the majority of the tenants present in the room is in favour.

It is often seen, that maybe only 20 apartments participate in the general meeting from a department with 120 apartments.  
If 11 of the 20 apartments present are in favour of the proposal, then it is approved.

## 7 Contracting.

A common construction/supplier contract will be prepared between the winning contractor and the participating housing associations.

The contract includes all specific prices for the participating departments and describes the conditions common for the work in all departments.

In addition to the common contract individual contracts have to be prepared between the contractor and the individual departments, because departments are legal entities.

In the main contract there will be references to the individual contracts.

The contracts include specifications how to act, if less or more work has to be done compared to the descriptions in the tender documents.



## **8 Implementation phase**

In a bundled project it is normally the same construction manager from the consultant, who manage and supervise the work in all the participating departments

There will be developed a common construction account with visible specifications for all the involved departments.

