EURHONET
European Housing Network

Housing the future

RETROFITTING TOGETHER - MINUTES

On November, 17th, Birmingham, UK

ATTENDEES

Company	Name
ALER BCM	Danilo SCARAMELLA
ALER BCM	Roberto SCARSI
ATER	Sabina MANENTE
ATER	Paolo ZORZI
Bauverein AG	Felix LEONHARDT
DANMARKS ALMENE BOLIGER	Mikkel JUNGSHOVED
Delphis	Sarah STOCCO
GEWOBA	Johann Christian PLAGEMANN
greenLab	Isaac SCARAMELLA
Le Foyer Rémois	Hannah FISCHER BAUM
Le Foyer Rémois	Jean-Denis MEGE
IPES	Ferdinand TAVERNINI
Luwoge Consult	Thilo CUNZ
Trent & Dove Housing	Steve GROCOCK
Uppsalahem AB	Mikael ENGBERG

MEETING AGENDA

14:00 - 14:15 Welcome to Birmingham (Trent and Dove / Steve Grocock)
14:15 - 14:25 Introduction to Retrofitting Together activities by Isaac SCARAMELLA
14:25 - 14:35 Bolzano Pilot site adaptation (by IPES Bolzano)
14:35 - 14:45 Other pilot's site update and Brescia's pilot site candidacy
14:45 - 15:30 Detailed Presentation of Trent and Dove's pilot site (by Steve Grocock)
including:
UK activities in energy savings - Green Deal
Heat pump heating system
15:30 - 15:45 Coffee Break
15:45 - 16:30 Flying Experts Workshop and discussion
16:30 - 18:00 Workshop on the future developments of BuildTog and Retrofitting Together activities.

WELCOME TO UK AND INTRODUCTION TO TRENT AND DOVE by Mark LEWIS (Trent and Dove)

Mark gives to the participants the welcome to UK, and says Trent and Dove is proud to host the meeting.
UK at the moment is going onto major changes in housing sector, also due to the new Government budget that will cause with lot of cuts.
A minute of silence for Paris attack is observed.

WELCOME AND INTRODUCTION TO THE ACTIVITIES by Isaac SCARAMELLA (greenLab)

Isaac introduces the activities planned for the day. He says it will be a very "dense" afternoon, as many topics need to be discussed. As there are some new members he also makes a small resume of what has been carried out in the past by the group and underlines that the process can be extended as much as the group deserves, as there is no limit to the number of pilot sites that can be analysed.
This meeting's pilot site exam will be on Trent and Doves' one.
A new pilot site, owned by Brescia, will be briefly presented during the meeting and if the group think it's interesting next meeting's flying experts workshop will be on that.

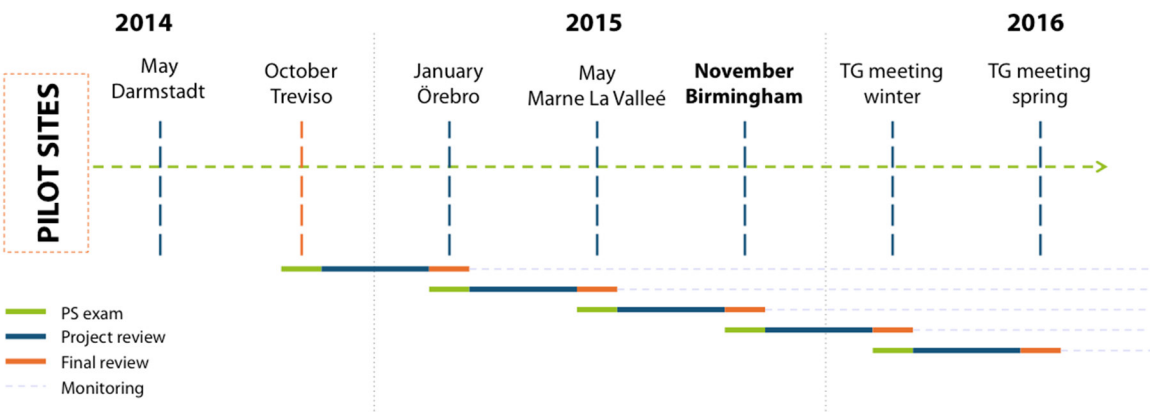

Figure 1 Retrofitting Together 2.0 timeline

BOLZANO PILOT SITE by Ferdinand TARVERNINI (IPES BOLZANO)

The last pilot site that was analysed was Bolzano's. Ferdinand presents which of the suggestions the *flying experts* did have been accepted.

Basically, most of the choices have been driven by the participation of IPES Bolzano to the SINFONIA project, with this pilot site.

In the following pages the tables shown by Ferdinand:

ENVELOPE

SUGGESTION	ACCEPTED (Y/N)	COMMENTS
Maybe it could be interesting to change completely the facade (i.e. external shutters);	N	Legal questions do not permit other way's (climahouse A)
Maybe it's not necessary to rebuild the balconies but only a "French balcony"	N	Tenants prefers to have a complete balcony
Should be done an on-going cost evaluation	Y	It will be carried out in next project steps
Think about something for sun protection and privacy on the balconies;	Y	It has now been done
Rather glazed balconies that can be opened in summer	N	Not accepted

New balconies with own structure (no thermal bridges).	N	Not possible

SYSTEM

SUGGESTION	ACCEPTED (Y/N)	COMMENTS
Not to use floor heating, but just radiators at a lower temperature;	N	Causes low temperature heating only floor heating possible
Use external pipes for mechanical ventilation.	N	Punctual machines for ventilation, not central ventilation.
Solar panels for hot water don't fit very well the district heating	N	If because part of project SINFONIA, not depends IPES
sensor for automatic wind opening with temperature	N	Not provided
Centralized ventilation	N	Not provided

One of the other pilot sites previously analysed was Treviso's. Sabina explains that some funding has been found in order to proceed with the works. Furthermore Sabina introduces the project DREEAM, ATER Treviso is part of the consortium and will have a pilot site.

Figure 2 images from DREEAM pilot site

NEW PILOT SITE CANDIDACY by Isaac SCARAMELLA (greenLab)

Isaac presents a new potential pilot site, located in Italy in the Province of Brescia. The building was constructed in 1985 and it's owned by ALER BCM. Isaac explains that could be interesting for two reasons: because is settled in the hills surrounding Brescia, so it is in a new climatic context for the groups' pilot sites and because we are not used in the group to discuss about building of the 80's. After the presentation it's decided that this is an interesting pilot site so next time will be presented in detail.

Figure 3 the new pilot site from ALER Brescia Cremona Mantova

TRENT AND DOVE PILOT SITE PRESENTATION by Steve GROCKOCK (TRENT AND DOVE)

Trent and Dove's housing stock is composed by 5700 units, and derives from a transfer of ownership from the municipality housing to the company.

UK has a chronic problem that rest of Europe doesn't have: the winter deaths, which means higher number of deaths during winter period due to bad living conditions. The reason is that in many properties occupied by elderly people are present electric storage radiators, so the tenants often just heat the living room of the bungalow and not the rest of the house. When the tenants leave the room there is a big temperature difference and the body cannot stand it, so there are health problems.

One of the solutions that was experimented is the use of ground source heat pumps. This is in general a very expensive source, but there was the opportunity to introduce them thanks to a generous founding from the government.

Figure 4 image of the borehole drilling

In total 133 properties were interested by the project, for a total cost of 1.8£.

For this kind of intervention in UK there are two different lines of funding: one is for *domestic* and the other for *non domestic*. The non domestic line includes district heating. The *non domestic* line gives higher funding, so in order to apply for that line it was decided to share the boreholes across 2 or 3 bungalows.

There is a saving for the housing company, but it's not connected to the energy cost, as it is completely in charge of the tenants. The company earns money as the subsidies ar higher than the cost (cost is £1.8m while subsidies are £2.25m).

The initial investment cost came from the money of the rents. At national level the government takes money to give subsidies from energy bills. The lines of funding gave grants only for heating pumps, not for other kind of intervention, and could be also used also for new buildings.

MORE INFORMATION ABOUT THE UNDERGROUND HEAT PUMPS by Chris DAVIS (KENSA)

Kensa is a group that cares about the design, the construction and installation of the heat pump, and they are completely "made in Britain". In UK the 80% of the housing stock is heated by gas. Usually existing houses have a little insulation, so the envelope performance is not too bad. The RHI (Renewable Heat Incentives) program was run by the government

and it was decided to apply for a *micro district heating*. This means that each property has its heat pump, but with a shared borehole.
The installation required 1 day time for digging the borehole. The system is composed by heating pump + hot water cylinder + radiators è control system.
This is the largest application of underground heat pump in UK.

TEHRMAL RESULTS by Sarah BLOIS BROOKE (ENCRAFT)

It was analysed the data from Energy Modelling with FSAP. It is clear that there is big energy saving for the tenants, around the 50% of energy bills and a better confort. It must be clear that part of the saving is because of the better control, depending on the substitution of the existing electrical storage radiators with water radiators.

TENANTS ACCEPTANCE by Sarah BYRNE (TRENT AND DOVE)

Great attention was given to the explaination to the tenants what kind of works were going to be carried out. An inquiry was performed after the end of the activities and a great number of answers was collected (79% of the tenant answered) and there was a very high level of satisfaction.

WORKSHOP AND WORKSHOP REPORT by all participants

Flying Experts for retrofitting workshop was carried out, in the following tables the main results:

GENERAL	
Positive aspects	• Interesting approach with the evaluation of "winter deaths" • Explanation of the new system to the tenants; • Simple approach
Aspects to improve	• Find a way independent from the funding to act
Critical aspects	• No intervention on envelope

ENVELOPE	
Positive aspects	
Aspects to improve	• No improvement in external insulation
Critical aspects	• Work on windows • Work on air tightness

SYSTEM	
Positive aspects	• Use of deep borehole; • Low temperature radiators; • Use of electrical energy very positive in this situation;
Aspects to improve	• Evaluate another emission system (such as floor system) for other situations; • Wider sharing of the borehole (among more bungalows); • Compare the proposed system with other solutions; • Radiators size could be maybe reduced; • Define the carbon balance of the whole itnervention.
Critical aspects	• No payback (more than 20 years), so there is no replicability without government grants

WORKSHOP ON THE FUTURE DEVELOPMENTS OF BUILDTOG AND RETROFITTING TOGETHER ACTIVITIES by Isaac SCARAMELLA (greenLab) and Thilo CUNZ (Luwoge Consult)

Both the BuildTog group and Retrofitting Together have been working for several years up to now. The question now is how to continue the activities. Shall the two groups work more closely together? What should be the main focus of the group?

This is the reason because this workshop is performed. Before to divide into three groups Thilo and Isaac briefly summarize the activities carried out during the previous years in the two sub-groups.

The results of the workshop, together with a proposal of activities will be presented during next meeting.