Lund Meeting

The 8th meeting of the working phase of Annex 56 took place in Lund, Sweden, on March 10th, 11th and 12th 2014.

As the project enters the last year, some outcomes are now reaching the final stage, and will be available for the general public in a very near future. During this meeting it was discussed which of the deliverables are coming to a conclusion, and how can they be disseminated to the identified targets.

The 22 participants from 8 countries, were updated about the developments of the subtasks, mainly those who have deliverables to be made public, such as subtask A — methodology, generic calculations, LCIA and co-benefits, and subtask C — Case studies.

Although some documents are already available to download, in the project website, new and updated versions are now being prepared and finalized, so they can be revised and approved by the IEA ExCO reviewers.

It was possible to select and analyse 9 additional buildings that are to be included in the revised version of the shining examples brochure. Nonetheless they are available to download in the project’s website: http://iea-annex56.org/index.aspx?MenuID=4&SubMenuID=17

The Industry workshop that was held, during the Lund meeting, is presented on the next page.

There was also the opportunity to visit a energy renovated neighbourhood, in the outskirts of Malmö. More information about this buildings can be found in the following pages.

6th International Building Physics Conference - Torino 2015

A special session dedicated to Annex 56, was held in the 6th International Building Physics Conference, Torino, from 14-17 June 2015 - http://www.ibpc2015.org/

A presentation of the goals, objectives and conclusions of the Annex 56 project was made in the conference, as well as a total 15 papers focusing on the Annex 56 principals were presented to the public.

The papers that were presented can be accessed here

Final Workshop - Portugal

The last meeting of the project will take place in Porto-Portugal, from 16 to 18 of September.

Along with the meeting, it will also take place the final workshop with the title:

“How to achieve the best performance in the renovation of existing buildings (lower energy consumption, lower carbon emissions, higher added value) with minimal effort (investment, workload, intervention in the building, hassle of residents)?

It will be an opportunity to disseminate the findings and conclusions of the project, to the ones involved in building renovation.

Click here for more information, and here for the program.
IEA EBC INDUSTRY WORKSHOP

Annex 56 Industry Workshop: Learn to Renovate!
March 17th 2015
Ideon Gateway, Lund

The Annex 56 Industry Workshop took place in Ideon Gateway building, located at Ideon Science Park - Lund. Besides the participants of the Annex 56 meeting there were representatives of municipality, companies, utilities, and colleagues and PhD students from Faculty of Engineering of Lund University.

Program

- Patrik Rydén (LU Open) - Moderator
- Examples and perspectives from across Europe
  - Manuela Almeida (Univ. Minho)
  - Roman Bolliger (econcept AG)
  - Ove Mörck (Cenergia)

- Peter Hennicke (Wuppertal Institute)
- Oscar Pelin (Malmö City)
- Thomas Johnsson (EoN)
- Charlotte Hauksson (WSP/Trianon)

Group Discussion

In this session there was the possibility to present the scope of the project, as well as some findings and conclusions regarding energy related building renovation.

On the other hand, the invited speakers brought additional topics to the table, enabling to have a wider understanding of the subject.

It was possible to have a fruitful session, in great extend due to a very active group discussion.
Subtasks update

The project activities of the subtask A, dealing with Methodology, Parametric calculations of impacts, LCIA, and Co-benefits are reaching their final stage, with the final report for methodology being produced, as well as additional generic calculations were performed to explore the impacts of embodied energy and renewable energy generation.

Subtask B is focused on the development of the guidelines for owners and policy makers, which are to be the main support for the renovation guidebook. Both guidelines were significantly improved and are reaching their completion.

The subtask C is mainly committed with the collection and assessment of data from the different case studies. Nine new shining examples have been submitted by the participants adding up to a total of 18 examples to be published in the final brochure. The detailed case studies report is already in its draft version, including the calculations regarding lifecycle assessment and lifecycle cost, for each renovation packages.

Methodology

The methodology outlined for the project, has to provide the necessary basics for the assessment of existing buildings undergoing energy related renovation processes. The assessment comprises as main impacts, categories such as costs, primary energy use and carbon emissions impacts of energy related building renovation.

Click here for more information.

Renovation Guidebook

One of the most important deliverables of the project is the renovation guidebook. It was foreseen to have two separate documents, each of them directed to a specific target.

These guidebooks will be made having in mind the differences between this two targets- professional home owners, and policy makers—and will present the findings and conclusions that were identified by the subtasks of the project.

Shining Examples

For the development of the project, it was necessary to identify, among the partners, a set of shining examples that could illustrate best practices regarding building renovation. All of these shining examples, leading a total of 18 buildings, are now available for download here.

One of the outcomes of the project is the publishing of a brochure, that compiles a set of 18 shining examples identified by the partners. A first version of the brochure comprising 9 shining examples and detailed analysis was completed in May 2014 and can be downloaded here.

The final version of the brochure is expected to be ready for download in October 2015.
Project summary

- The Lindängen neighbourhood is located in the outskirts of Malmö.
- The buildings of Vårsången block were built in 1975.
- The aim was to reduce the energy use with 50%, so far 25% has been achieved.
- The owner wants their tenants to be proud and engaged in their efforts to develop and create a better and more attractive area.
- The renovation project meant the creation of twenty new local jobs.

Site: Malmö, Sweden
Altitude: 29 m
Heating degree days: 3105 (base temp 17°C)
Owner: Trianon AB
Energy concept: WSP Sverige AB

SHINING EXAMPLE — VÅRSÅNGEN - MÅLMÖ, SWEDEN

It is common procedure in the meetings of the project, to have a visit to an energy renovated building. In almost all site visits, the building is later on detailed as a shining example.

In this particular case the building that was visited was not detailed as a shining example.
The main aim of the project was to energy renovate the buildings and improve the outdoor environment. A pilot study was carried out with the aim of reducing the energy use by 50%. The following alternatives in different combinations were studied:

- Additional insulation of the attic
- New windows
- Energy retrofitting of the elevators
- Installation of balanced mechanical ventilation with heat recovery
- Installation of exhaust air heat pumps
- Installation of geothermal heat pump
- Installation of solar photovoltaic cells
- Installation of wind power
- New circulating pumps
- Additional insulation of district heating culvert

A life cycle cost analysis was carried out assuming the rate of interest to be 4.5% and the life span to be 15–40 years (depending on type of measure). The only single energy measure with a positive net present value is installation of exhaust air heat pumps. Replacing the windows with low energy windows taking into account that the windows due to wear and tear need to be replaced also shows a positive net present value. The installation of solar photovoltaic cells on the buildings is close to showing a positive net present value.
The following energy and environmental renovation measures are implemented or will be implemented without increasing the rent for the tenants:

<table>
<thead>
<tr>
<th>Renovation measure</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaust air heat pump for energy recovery.</td>
<td>Implemented</td>
</tr>
<tr>
<td>New energy efficient windows</td>
<td>To be implemented</td>
</tr>
<tr>
<td>New roofing.</td>
<td>Implemented</td>
</tr>
<tr>
<td>New district heating heat exchangers.</td>
<td>Implemented</td>
</tr>
<tr>
<td>New radiator thermostats and circulating pumps</td>
<td>Implemented</td>
</tr>
<tr>
<td>Energy efficiency measures using the building automation system.</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Individual hot water metering and invoicing model.</td>
<td>To be implemented</td>
</tr>
<tr>
<td>New energy efficient equipment in the common laundry rooms.</td>
<td>Implemented</td>
</tr>
<tr>
<td>New energy efficient lighting in common areas.</td>
<td>Implemented</td>
</tr>
<tr>
<td>PV’s on roofs (300 sqm).</td>
<td>To be implemented</td>
</tr>
<tr>
<td>New energy efficient elevators.</td>
<td>Implemented</td>
</tr>
</tbody>
</table>

The owner not only wants to energy renovate the buildings and improve the outdoor environment but also wants their tenants to be proud and engaged in their efforts to develop and create a better and more attractive area.

The renovation project also includes the creation of new local jobs.

**Lessons learnt so far**

Extra costs to include social clauses in contract documents.

Difficult to calculate pay-off time

There are now “ambassadors” in the neighbourhood.

Increase of image and profile of the area, media attention

New initiatives and projects are being presented to Trianon

Decrease in the "moving out rate"

Financial contribution from the Swedish Energy Agency and EU for the project

In the near future 140 new apartments will be built between the existing buildings and 10 more local jobs will be created.

**Recommendations**

1. Do a thorough review of the area/ neighbourhood.
2. What are the aims and visions of the city?
3. Determine key actors and who are/will be interested in the development of the neighbourhood/district?
4. Good examples and initiatives
5. Possible investors and financial contributors?
6. Start a common process
7. Short- and long-term payback and to whom?

**Courage and creativity is needed!**