NEWSLETTER · ISSUE 6

Climate Change · Cultural Heritage · Energy Efficient Monuments

Co2olBricks

Editorial

Dear Reader,

we are happy to announce that on 3rd December 2013 from 9:00 – 17:00 Co2olBricks will hold a conference to present you the results and where the Co2olBricks Joint Declaration will be signed. I am inviting all people who are involved and interested in the topic of climate change mitigation and heritage protection to this conference. The speeches will cover a wide range of points of view on this issue all of them showing that these two global topics are not a contradiction. We will hear high ranking politicians who try to balance the interests and practitioners who have proven that economically and technically heritage friendly solutions are well possible, though still requiring a lot of thinking by intelligent people.

Enjoy reading.

Yours sincerely

Co2olBricks Project Coordinator

Invitation to Co2olBricks Results and Declaration Signing Conference

Date: Tuesday 03.12.2013 | Time: 9:00 – 17:00 h
Location: Bürgerhaus Wilhelmsburg, Mengestraße 20, 21107 Hamburg, Germany

At this conference Co2olBricks will present its results and in a special ceremony the Co2olBricks Joint Declaration will be signed by the project partners. Speakers will be:

- Prof. Barbara Kisseler, Hamburg Senator of Culture
- Chief City Architect Oberbaudirektor Prof. Jörn Walter
- Mr. Andreas Kellner, Head of Hamburg Department for Heritage Preservation
- Mr. Stefan Herms, Hamburg State Chancellery, Director General Intl. Affairs
- Mr. Anders Brüel, Project Manager, Realdania Byg A/S
- Ms. Prof. Dagnija Blumberga, Riga Technical University, Latvia
- Mr. Tommi Lindh, Member Steering Committee Co2olBricks, Director Alvar Aalto Foundation & Museum, Finland
- Ms. Kadi Varda, SRIK, Estonia
- Mr. Trivimi Velliste, Former Estonian Foreign Minister
- Mr. Jan Prahm, Co2olBricks Project Coordinator

The current programme and registration can be found on *www.co2olbricks.eu.*

Content

Co2olBricks.eu

Baltic Sea Region Programme 2007–2013

Part-financed by the European Union
(European Regional Development Fund and European Neighbourhood and Partnership Instrument)

Workpackage 3 Policy Development

Workpackage 3 Policy Development was working on forwarding the political discussion on national and transnational level about the installation of new cooperation models between administrative institutions, architects, engineers, housing and building companies and affected building owners, to implement new strategies for technical, administrative and historically adequate approaches, to create the political and administrative basis to implement the technical, educational and economical solutions and to declare a transnational common position.

Through the project, similarities between the partner countries have been clarified but also the many differences. The partners have different backgrounds - from the cultural heritage and educational sector, local governments, researchers and private businesses - which have learned to recognise the differences between the countries approaches and each other along the project. All partner countries have ratified international conventions such as UNESCO, ICOMOS Venice Charter etc. but make different interpretation of the contents which results in different approaches regarding conservation of cultural heritage. They also have very different conditions regarding e.g. economy, energy goals and supply, the condition of buildings and historic background etc.

In some countries, there are no energy efficiency measures at all in the protected buildings and therefore, there is no discussion or issue on what to actually do. Performing energy certification is another example - while both energy assessments and energy certificates are accomplished in historic buildings in other countries. The utility of establishing energy certificates in historic buildings can be questioned as profits and the numbers of buildings is small in the context of all new and existing buildings. On the other hand if the energy certificates would adapt to historic buildings and their specific conditions – performing energy audits, measurements on the actual building and suggestions for energy saving measures were customised and evaluated by expertise - historic buildings might contribute to EU's energy goals and climate protection to a greater degree than today.

The project experience is that European directives, national legislation and action plans for improving energy efficiency are shaped by new buildings or existing, modern buildings and focus on the energy saving measures to be most cost effective - at present. In the current climate- and energy debate on energy efficient buildings the focus is only on energy use in the operational phase – not on the value of energy that is embodied in existing structures in the building materials etc. The historic buildings are usually handled either by exemption or not at all. Very few policy instruments highlight neither opportunities nor the adjustments that must be made, specific expertise and processes to work with protected buildings.

Work package 3 (WP3) Policy Development, has through discussions with practitioners, researchers and stakeholders and by following other work packages of the project, drawn conclusions which policies need to be developed to implement the methods, technical solutions, training programs etc needed for improve the conditions of energy efficiency of historic buildings. These conclusions create the foundation of the strategic Policy Paper and the recommendations posted in the Co2olBricks Joint Declaration.

The main outputs of WP 3 is to be found in the report "Integration of climate protection and cultural heritage aspects in municipal policy and development plans" to be downloaded on *www.co2olbricks.eu* from 3rd December 2013.

Workpackage 4 Technical Solutions

Focus of the activities within Workpackage 4 Technical Solutions was to achieve its goals in four main topic areas:

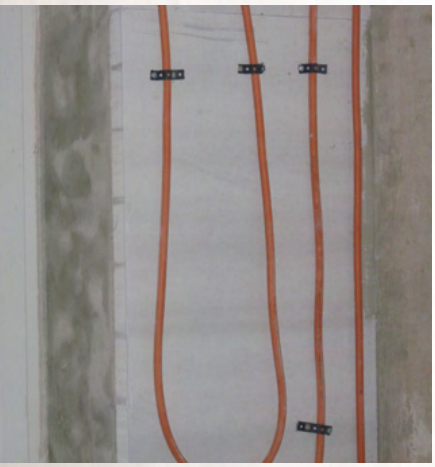
- Research
- Best practice example
- Technical solutions
- Pilot projects

The aim was to compile examples and results concerning energy-saving weak points and potentials of buildings with historical value. The three pilot projects have had the goal to implement, monitor and evaluate energy saving measures in historic buildings. The results of the first three topics are published in the brochure "Improving the energy efficiency of historic buildings - A handbook of best practice examples, technical solutions and research projects", and complemented by an abstract about the output "building analysis". The pilot projects are described in a separate booklet.

In all the topics theory meets practice, meaning that the calculated energy efficiency rehabilitation measures were identified and tested under real conditions in existing buildings. The outcome is the published handbook of commonly used and innovative methods which documents the experiences collected by the project partners during the selection and assessment process. It becomes clear that there are some similarities but also many differences concerning the methods and their implementation in the participating countries with their differing climate zones and types of buildings. Most of the projects were rehabilitation projects that had been implemented earlier. But Co2olBricks also conducted some research projects itself in order to investigate certain questions, like the one concerning the effect of various internal insulation methods work in different climates and different types of buildings.

Research

In the four countries Estonia, Germany, Poland, and Sweden, research was conducted:



- In Estonia, in the city of Kohtla-Järve, four different internal insulation materials were tested under the climate conditions of Estonia and it was analysed how they influenced the hygrothermal behaviour of the wall. Also in Estonia, in the city of Tartu, the energy consumption for 19 buildings was assessed using real consumption data. Two of these buildings were further investigated in detail.

- In Germany, in the city of Hamburg, four flats in a brick building were equipped with two different heating systems and some of them additionally with internal insulation. The hygrothermal behaviour of the wall was measured under the varying weather conditions.

- In Poland, a historic manor house was investigated. The original refurbishment concept was evaluated and was considered to be not energy-efficient enough. So a new concept was set up taking into consideration various energy efficiency measures for historic buildings in order to achieve considerable energy savings.

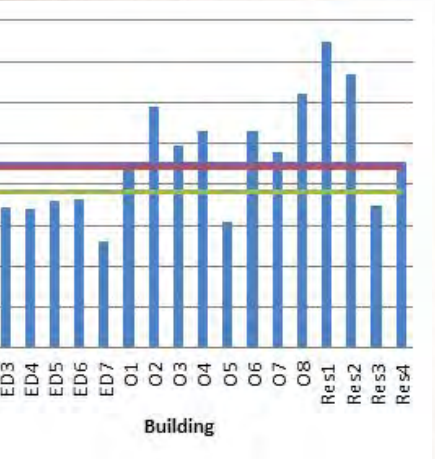
- In Sweden the economically feasible energy saving potential of different measures for a large former hospital has been calculated.

Best Practice Examples

In Denmark, Belarus, Germany, Finland and Sweden, a wide range of best practice examples were collected and analysed. Very different buildings are listed, ranging from a castle from the 16th century to a residential building from 1971. All the examples show common and new methods as well as the wide variety of different approaches used in the participating countries. One interesting point is that the small and large-scale measures which are presented show that small measures can already save a considerable amount of energy without touching the structure of the building.

Examples of technical solutions

Based on the best practice examples, main aspects of certain energy saving possibilities such as insulation, shading systems, ventilation, heating systems and home automation are assessed. The aim was to find and present measures whose implementation does not alter the historic building itself. The authors of the examples describe the main pros and cons of the systems which, when correctly installed, can save considerable amounts of energy.



Building Analysis

The aim concerning the energy refurbishment of historic buildings should not be to save as much energy as technically thinkable but instead to implement as many measures as possible without destroying heritage values or, worse, damaging the historic structure completely. Therefore the rehabilitation and improvement of the energy efficiency of a historic building is much more complex than that of a 'normal' building. Therefore the last chapter deals with building analysis methods for energy-saving measures, taking into account the conservation of historical value. The common experiences are summed up in the description of a process analysis. The described process shows how, in an iterative process of assessing the historical value and technical energy saving measures, an optimal solution can be found. Optimal solution in this case means the best compromise between the improvement of the building, the preservation of the historical value, the reduction of energy use and costs and the optimisation of the buildings usability.

Workpackage 5 Education and Economic Promotion

Workpackage 5 Education and Economic Promotion aimed to upgrade the knowledge and education of architects, engineers, craftsmen, etc. to harmonise their curricula with the objective of an open market.
Main work was the development of different learning packages.
For the investigation of the relevant issues, a baseline study adapted from a specific questionnaire about the national educational situation and the labour market was conducted including the following conclusions

- There is a lack of knowledge on historical techniques;
- Property owners must also be involved in educational courses and must be given advice how to make buildings more energy efficient;
- The market must be stimulated so that consumers understand that specific expertise is urgently needed and that they demand this expertise from the planners and building companies;
- The general public must be informed and given a message that they are able to reduce expenses for energy consumption by carefully applying latest renovation technologies;
- Vocational training must be market-oriented with the focus on local needs;
- The specialists need to have informal meetings to share knowledge.

The lectures, presentations and other educational, recommendation and credential materials were prepared for public in general, house owners and stakeholders, building companies, apprentices in crafts of bricklayers, plasterers, lagging, construction and architecture students, working craftsmen, architects, building supervising staff, energy auditors.
Important categories of learning packages are:

- Cultural heritage and historic constructions
- Energy efficient refurbishment measures and technical services (heating, ventilation, indoor climate).

The education materials concentrate on the questions of how to apply new materials on old buildings, the techniques, common background, and effects if something is done wrongly. Education at universities includes more theoretical knowledge, knowledge about cultural heritage, whereas craftsmen are educated in understanding the building, construction, materials, refurbishment concepts and lifecycle of the building.

The material treats the following aspects as well:

- History of brick masonry constructions in the Baltic Sea Region
- Calculation of thermal conductivity and moisture regimes in historical buildings
- Refurbishment measures of historic masonry construction
- Lifecycle analysis of a building
- Innovative heating systems and their usage in historic buildings
- Management stages of construction projects, planning of the refurbishment process
- Public procurement in the construction market
- Evaluation of rationality of investment
- Typical structural damages in historic buildings
- Construction ware and products used for renewal of historical buildings

All lecture material is available at *www.co2olbricks.eu* from 3rd December 2013.

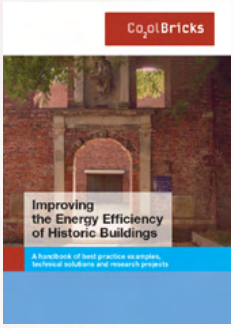
Publications

All publications are available at *www.co2olbricks.eu* from 3rd December 2013.

Most important publications are:

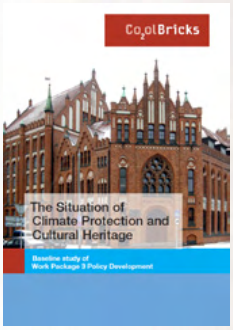
Final Report of Co2olBricks

Guideline "Integration of Climate Protection and Cultural Heritage aspects in municipal policy and development plans" - Report of Co2olBricks Work Package 3 Policy Development



Improving the energy efficiency of historic buildings - A handbook of best practice examples, technical solutions and research projects

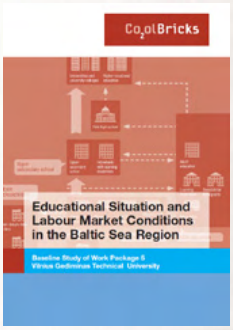
Improving the energy efficiency of historic buildings - The four pilot projects of Co2olBricks



The Situation of Climate Protection and Cultural Heritage - Baseline Study of Work Package 3 Policy Development

Refurbishment for the energy efficiency of historic buildings in member states in the Baltic Sea Region - A handbook of the "most common methods for improvements to energy efficiency"

Educational Situation and Labour Market Conditions in the Baltic Sea Region - Baseline Study of Work Package 5



Co2olBricks is flagship project!

Since February 2013, Co2olBricks is one of two flagship projects of the priority area "Culture - Developing and promoting the common culture and cultural identity" and listed in the Action Plan for the European Union Strategy for the Baltic Sea Region (EUSBSR).

The actions of the EUSBSR are implemented by means of flagship projects. Flagship projects demonstrate the progress of the EUSBSR, and may serve as pilot examples for desired action. A flagship project is frequently the result of a policy discussion within a priority area/ horizontal action and fleshes out the ambition of a priority area in a specified field of action. A flagship project may, for example, develop key solutions, new methodologies, practises or new forms of cooperation and may also concern key investments of regional importance.

Work package 4 „Technical Innovations“ meeting in Minsk / Belarus

The Workshop on technical solutions took place in Minsk on 3rd - 4th September 2013. The inviting party of the workshop was the Republican Centre for Technology Transfer with the support of the National Academy of Sciences of Belarus, the State Committee on Science and Technology and the Belarusian Innovation Fund.
The workshop gathered more than 40 participants, among them 20 participants representing Germany, Denmark, Lithuania, Poland, Russia and Estonia.

The first day started with the excursion, where guests got acquainted with the architectural heritage of Minsk and examples of recently reconstructed buildings. After the excursion participants discussed the progress of the project. In particular project partners exchanged opinions on the draft of the „Analysis of existing buildings for energy-saving measures taking into account the conservation of historical value“.
On the second day the International Seminar „Technologies for energy-efficient modernisation of historic buildings“ was held.

In the frame of the organised events foreign guests also visited the Museum of the National Academy of Sciences, got acquainted with Belarusian technologies that can be used in the renovation and restoration of historic buildings, and also discussed with representatives of RCTT and other Belarusian organisations prospects of implementing joint projects.

Preparing the Joint Declaration & Policy Paper at Project Meeting in Gdansk / Poland

In September Co2olBricks partners met for their project partner and steering committee meeting in Gdansk, Polen.
The meeting started on Monday, 16th September 2013 with a very interesting guided Gdansk old town tour to all the important sights and monuments.
After welcoming words at the office of the Marshal of the Pomorskie Voivodeship and two presentations the Joint Declaration, Policy Paper and administrative aspects were the main themes to talk about.
In the late afternoon a bus transfer to the City of Malbork with a guided tour around Malbork Castle took place.

On Tuesday, 17th September 2013 the meeting started with project administrative aspects. A workshop to develop a checklist for energy analysis followed up with a very fruitful discussion. In the afternoon a bus tour around historical brick objects and good practice examples took place.

On Wednesday, a joint session of the project partners together with a steering committee meeting took place. In the end of the meeting ideas for future activities and possibilities for networking after the end of the project were discussed.

Dates and Events

· 12.11.13 | Brussels | Belgium	Co2olBricks Information Event
· 03.12.13 | Hamburg | Germany	Co2olBricks Results and Declaration Signing Conference
· 04.-05.12.13 | Hamburg | Germany	Co2olBricks Partner Meeting

find more information and updated events on www.co2olbricks.eu

News from Sweden
A Co$_2$olBricks travelling exhibition

The Stockholm City Museum has developed a travelling exhibition about the Co$_2$olBricks project. The exhibition was inaugurated on Monday 1st July, in the Almedalen Week (Almedalsveckan). The opening is presented in cooperation with "Spara och Bevara" (The Swedish Energy Agency's research program for energy efficiency in cultural heritage buildings).

The Almedalen Week is an annual event taking place in week 27 in and around Almedalen, a park in the city of Visby on the Swedish island Gotland. It is considered as Sweden's biggest political meeting place.
This autumn, the exhibition is booked for the Building conservation fair in Mariestad, the Cooperative Flat Fair (Bostadsrättsmässan), the "Tekniska nämndhuset" (a municipal building in Stockholm which houses the technical departments, as for example the Real Estate Administration, the City Planning Administration and the Environment and Health Administration) and the Co$_2$olBricks Results and Joint Declaration Conference in Hamburg.

Building conservation convention in Mariestad

During some brilliant autumn days from 2nd to 4th October 2013, "Byggnadsvårdens konvent" (Building conservation convention) took place in the Swedish small town, Mariestad. It was the first year the convention was conducted, inspired by the German "Denkmal" fair, and organisers were The Swedish Association for Building Preservation, The Craft Laboratory, Västarvet and the Swedish National Heritage Board.

The organisers had expected about 200 participants but at the Convention boot over 400 people had signed up. There were participants from organisations, businesses and governments. Curators and engineers.
The Convention had a section devoted to energy issues, and there was Co2olBricks as one of the most visited points in the program. Therese Sonehag, from the Swedish National Heritage Board and work package leader, gave an introduction to policy development within EU and about the results of Co$_2$olBricks.
All in all it was a very successful event and the great interest shows just how hot the energy-matter is.

News from Belarus
Seminar „Problems of Energy Efficiency of Historic Buildings"

The seminar „Problems of Energy Efficiency of Historic Buildings" took place in Minsk on 17th September 2013. The event was held at the Academy of Public Administration under the Aegis of the President of the Republic of Belarus. The seminar was moderated by Director of RCTT Dr. Alexander Uspenskiy. Attendees of the seminar have been 52 representatives from all regions of Belarus - directors and specialists from Minsk, regional and local committees and departments of architecture and construction. Participants of the seminar were informed about the progress of Co$_2$olBricks and about he publications that are prepared by partners in the frame of the project and placed on the internet-portal of RCTT.
During the seminar there were several topical issues taken up:

- The legislation in the fields of cultural heritage preservation and energy efficiency of historic buildings;
- Energy audit and energy certification of historic buildings;
- Technologies to improve energy efficiency of historic buildings;
- Education and training of specialists for reconstruction and restoration of historic buildings.

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