NEWSLETTER · ISSUE 8
Climate Change · Cultural Heritage · Energy Efficient Monuments
Co2olBricks

Editorial

Dear Reader,

with the Co2olBricks Results and Joint Declaration Signing Conference on 3rd December 2013 with 200 participants and the wide range of talks that were given Co2olBricks has come to an end. But this is not the end of our work. All project partners continue their work and also our network of course will further on exist. Although we might not meet too often in the near future, we can be sure that all are working in the same direction. This direction had been laid out in the Joint Declaration which was publicly signed by all project partners at the conference.
I would like to thank all project partners for the good cooperation which has resulted in an impressive list of publications which can be downloaded from the Co2olBricks Website under *www.co2olbricks.eu*. The website will stay online for the next 5 years.
It is clear that Co2olBricks was only the beginning of a discussion how historic buildings can contribute their share to climate change mitigation. We were able to broaden and advance the knowledge among the relevant stakeholders like house owners, heritage protection departments, politicians and administrations. Our publications, workshops and conferences considerably raised the awareness for the possibilities of energy efficiency in historic buildings without destroying their historic values. The important result here is that a much bigger support e.g. from politicians and administration for these possibilities can be stated and also more architects and planners are now more open minded to these possibilities. The general public as well gained a better understanding of the historic values of the historic buildings and has understood that climate change mitigation and heritage protection are no contradiction and that one of the most important resource are intelligent experts.
So we are confident that energy efficiency rehabilitation of historic buildings can reach an overall higher level if the will is there.

I wish you a Merry Christmas and a Happy New Year 2014!

Yours sincerely

Co2olBricks Project Coordinator

Content

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The End is the Beginning - Speeches, Presentations and Joint Declaration at „Result Conference“

On December 3rd 2013, more than 200 architects, planners, conservation specialists, representatives from administrations and institutions and other experts met in Hamburg for the “Co2olBricks Results and Joint Declaration Signing Conference”. Jan Gerbitz, host for the day, reminded the participants, that nearly 3 years ago, in April 2011, the Co2olBricks Kick Off Conference was held in Hamburg as well. Back then in the historic brick building of the Chamber of Crafts, built by famous Hamburg Chief Building Director Fritz Schumacher from 1912 to 1917, in the beginning of December 2013 at the Wilhelmsburg Community Center, built with bricks as well, but in 1985.
He pointed out that the title of the conference is not “Final Conference” because the way to make historic buildings more energy efficient has just started. Accordingly, the conference presented not only results and included speeches by external observers and facilitators but was finalised with the signing of the Co2olBricks Joint Declaration with common recommendations of the project to express that there are still a lot more topics to work on.
The conference started with a speech of Mr. Stefan Herms, Director General for International Affairs at the Hamburg State Chancellery about the opportunities and benefits of transnational cooperation in the Baltic Sea Region and the value of Interreg Funding.
Mr. Andreas Kellner, Head of the Hamburg Heritage Department told the audience about the reasons to start the project and to work together in the field of energy efficiency in historic, especially brick buildings, in the Baltic Sea Region and some common results as well as some personal findings and recommendations.
The presentation of project results started with Mr. Anders Brüel from Realdania Byb A/S about the needs for special solutions and early cooperation between house owners, investors, planners, architects and officials from the heritage department to renovate Fästningens Materialgard in Copenhagen.
Ms. Prof. Dagnija Blumberga of the Technical University in Riga, Latvia presented the renovation concept and the testing of different insulation materials at the future Information Center of the World Heritage Site “Spikeri” in Riga.
Mr. Tommi Lindh, Director of the Alvar Aalto Foundation & Museum and Member of the Co2olBricks Steering Committee pointed out, that even the best technical solution has to be used in a proper and correct way, so “Education is the Key!”
Two researches of internal insulation in different climates – one in the “Old School Building” in Kohtla-Järve, one at the residential building at Passierzettel in Hamburg were presented by Ms. Kadi Varda of the Information Centre for Sustainable Renovation SRIK in Tallinn in Estonia.
Last speaker was the former Estonian Foreign Minister and Honorary Chairman of the Estonian Heritage Society Mr. Trivimi Velliste with an overview of developments of energy efficiency in historic buildings in Estonia and the Baltic States as an example of the progress which was made during the last three years.
The last part of the conference was dedicated to the Joint Declaration. Mr. Jan Prahm, Co2olBricks Project Coordinator presented the Policy Paper and the Joint Declaration being a focal point and a distillate of all activities during the projects period.
Afterwards, the Declaration was signed by official representatives of all Co2olBricks Project Partners.
The conference ended with a reception in the foyer of the venue.

In the evening, all project partners joined for dinner at the Landungsbrücken, the historic ship terminal of Hamburg.

Learning at On-Site Classroom

On the morning of December 4th 2013 the Co2olBricks Project Partners met at the Ausbildungszentrum Bau (AZB) Vocational Training Centre and got a guided tour through the training hall for brick layers, street plasterers and for pipe layers. Afterwards the project evaluation and the future Interreg BSR programme were presented and discussed.

In the afternoon of the day the Co2olBricks project partners held an on-site classroom on the site of the pilot project Holstenkamp and on the site of the research site Passierzettel.
At Holstenkamp the architect was present and explained in one of the buildings, which was representing all other 7 buildings, the works that were already done and are still planned to be done. Then Mr. Andreas Söhnchen of the Technical University Dresden, showed the participants first the installation point for the temperature and relative humidity gauges in the wall, outside the wall and between the internal insulation and the external wall and also the box with the technology by which the measured data is transmitted via GSM-Modem to the TU Dresden.
Afterwards the architect showed the participants the other buildings which are all in a different state of refurbishment.
Then the group was taken by bus to Passierzettel in Hamburg-Veddel. Here the 4 research flats with their convector and wall heating and internal insulation were visited. The partners experienced how the wall heating feels and how the internal insulation looks like.
Afterwards in a nearby hotel in a seminar room Mr Söhnchen of the TU Dresden gave a talk showing how the measuring is set up in Holstenkamp and Passierzettel and what data was collected. Mr Albert Schett of the Heritage Preservation Department of Hamburg presented the preliminary results and conclusion of the measuring of Passierzettel. Both speakers answered questions from the participants and discussed with them about the results.
The seminar was attended by altogether 40 people including representatives of the Department of Energy of the Hamburg Ministry of Urban Development and Environment and the house owner.

Study-Tour to submitted World Heritage Site

On December 5th 2013, some of the project partners joined a guided tour through the historic office and warehouse districts “Kontorhausviertel” and “Speicherstadt”. Unfortunately, storm wind “Xaver” already started, so some of the partners had to leave Hamburg earlier and the staying participants were affected by the cold wind.
Nevertheless, Ms. Dr. Christine Onnen of the Hamburg Department for Heritage Preservation explained the history and the different areas of the submitted World Heritage Site. Special interest was in the refurbishment of the famous “Chilehaus” and the “Kaispeicher B” (“Warehouse B”), now being the Hamburg Maritime Museum. Fortunately, it was possible to visit the entrance hall of the “Chilehaus” as well as the interior of the “Kaispeicher B” with its special solution for overhead heating and box-type windows.
The second part of the tour was dedicated to the interaction between the historic warehouse district and the new built Hafencity area, one of Europe’s biggest development areas, with the already famous “Elbphilharmonie” concert hall, being under construction.

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:

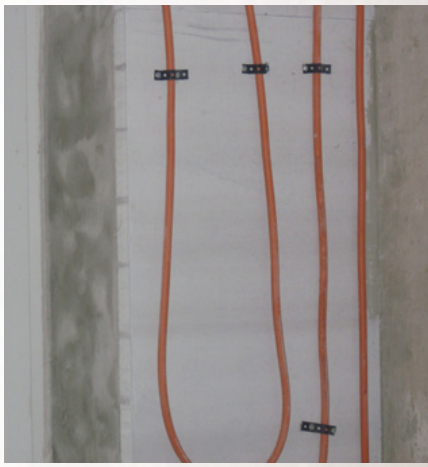
- Research
- Best practice example
- Technical solutions
- Pilot projects

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.

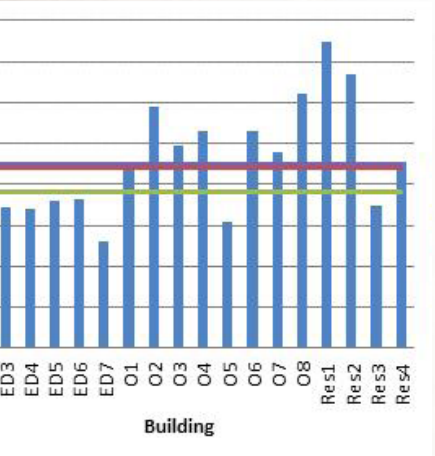
- In Sweden the economically feasible energy saving potential of different measures for a large former hospital has been calculated.

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).

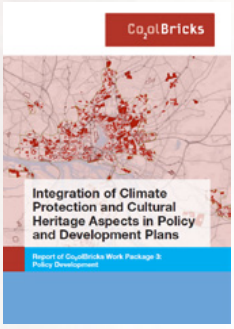
The education materials concentrate on the questions of how to apply new materials on old buildings, the techniques, common background, and effects if something is done wrongly. Education at universities includes more theoretical knowledge, knowledge about cultural heritage, whereas craftsmen are educated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

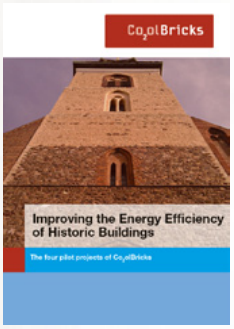
The material treats the following aspects as well:

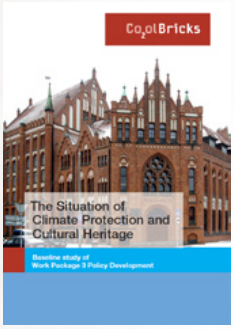
- History of brick masonry constructions in the Baltic Sea Region
- Calculation of thermal conductivity and moisture regimes in historical buildings
- Refurbishment measures of historic masonry construction
- Lifecycle analysis of a building
- Innovative heating systems and their usage in historic buildings
- 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

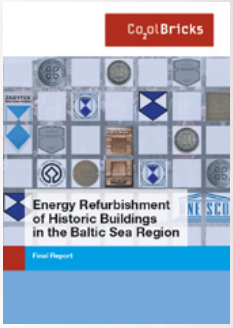
Improving the energy efficiency of historic buildings - A handbook of best practice examples, technical solutions and research projects

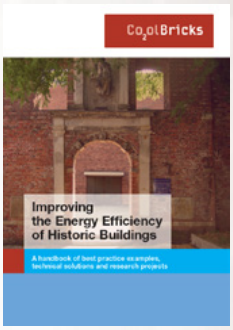
Improving the energy efficiency of historic buildings - The four pilot projects of Co2olBricks

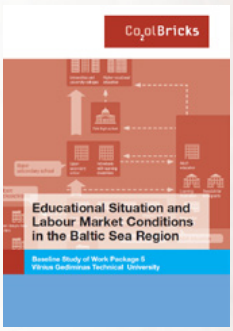
The Situation of Climate Protection and Cultural Heritage - Baseline Study of Work Package 3 Policy Development

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.

Information Event in Brussels

On 12th November 2013, Co2olBricks was presented in Brussels in the saloon of the „Hanse-Office“. Founded in 1985, it was the very first regional office in the European Union. In 1987 the so-called information office of the Free and Hanseatic City of Hamburg became the „Hanse-Office“, a common institution of the Länder Hamburg and Schleswig-Holstein to the European Union.

Representatives of different European countries and of European and regional institutions from Brussels and Belgium joined the afternoon. Present were the Region of South Denmark, the German Länder Lower Saxony, Schleswig-Holstein and Hamburg, the Heritage Unit of the City of Brussels, the Centre Urbain Stadswinkel and the European Historic Houses Association as well as individual architects.
Especially pleasant was the presence of MEP Sabine Wils, DIE LINKE.

The afternoon started with a lecture about Co2olBricks, its project structure and an overview of the results of the three workpackages by project coordinator Jan Prahm. Afterwards, during an open discussion and during the closing reception, several questions about the realisations of refurbishments of historic buildings and their technical, economic and social aspects were discussed.

Several other institutions contacted Co2olBricks and asked for further information, because they were not able to join the event but are highly interested in the results.

News from Poland
Energy efficiency of historic buildings in “Energy Café”

On 24th – 25th October 2013, the second edition of the Pomeranian Energy Days - 2013 (PED) was held in Amber EXPO – Gdansk exhibition centre. The event is organised by „Pomeranian in the European Union“ Association and is a great opportunity both to present the latest technologies in the field of energy and to talk about entire spectrum of the energy subject.

One of the platforms for discussion on energy which has been prepared and organised for the second time is the “Energy Café”. It is a place of consultation with experts in various fields of energy subject. The activity is implemented in framework of the Forum for Dialogue and Cooperation - Energy and Democracy.
This year, one of the topics of the “Energy Cafés” was “Improving the energy efficiency and thermo modernisation of historic buildings”.
Experts at the table were Tadeusz Zurek - Director of Energy Planning Department from Marshal‘s Office of Pomorskie Voivodeship, Dr. Teresa Zurek from the Energy Conservation Foundation and Aleksandra Kocialkowska, Co2ol Bricks WP3 Expert from European Foundation for Monuments Protection.
The idea behind the “Energy Café” based on the fact that each participant of Pomeranian Energy Days 2013 may ask an expert any question, that regard particular subject and drink some coffee during discussion. Table concerning efficiency of historic buildings was highly popular with guests. The questions were different as well as questioning persons represented a variety of professions and levels of knowledge about the topic of monuments.

News from Germany

The Hamburg Brick Forum - "History and Legacy – Brick as the threatened Sign of its Times"

On 20th August 2013 more than 100 architects, engineers, investors and representatives from housing companies, institutions and administrations joined the second evening of the Hamburg Brick Forum.
Hamburg City Chief Architect Fritz Schumacher shaped the Hamburg city scape with his public buildings and the residential areas of the 1920s in brick architecture. In former Prussian city and now Hamburg city district Altona, same applies accordingly for the former Building Senator Gustav Oelsner.
Prof. Dr. Dirk Schubert of the Fritz-Schumacher-Association and Prof. Dr. Peter Michelis of the Gustav-Oelsner-Association gave lectures about the particular work of the former two town master mason and their similarities as well as their differences.
Concluding, Albert Schett of the Hamburg Department for Heritage Preservation illustrated in his lecture the problems of protecting historical building structures. They range from planning mistakes and buildings physics problems during the erecting of the houses, the use of materials of minor qualities during the years of reconstruction, to mistakes by retrofitting by hydrophobising, sandblasting or not proper remodelling of gaps as well as impacts by the energetic refurbishment and insulation of facades.

During the lectures and by the end of the evening was time for several discussions.

Additionally, Co2olBricks presented some information and first results.

Co2olBricks Kiel is Winner of the „Energy Olympics"

The City of Kiel is the winner of the „Energy Olympics 2013" in the category "Organisation and Rule of Conduct" for their model conservation plan and consultations activities in the model area Elmschenhagen.

The „Energy Olympics" is a competition for municipalities in the German Federal State of Schleswig-Holstein, which supports them since 2007 by using energy more efficient and saving money. This for, every year up to 100.00 Euros of prize money is given to outstanding projects in different categories according to the judge of an experts jury. The prizes were presented during a ceremony.

In Kiel-Elschenhagen, for about 1,800 units of mainly detached houses from the 1930s, a technical model conservation plan was developed and afterwards discussed and adjusted with house owners, architects, energy experts and monument conservators. To motivate the house owners to refurbish their homes, the city administration organised consultations to find specific solutions and concepts. Additionally, 80,000 Euros of funding support the realization of investments. So far, 103 house owners have been advised, 66 of them have implemented refurbishment measures for a total invest of half a million Euros.

All projects are published in a special brochure and online at *www.energieolympiade.de.*

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 was 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.

Contacts

Co2olBricks

Lead Partner
Department for Heritage Preservation Hamburg
Jan Prahm
fon: +49 40 42824-729
jan.prahm@kb.hamburg.de
www.hamburg.de/denkmalschutzamt

Hamburg | Ministry of Culture

Department for Heritage Preservation Hamburg
Dr. Daniela Scherz /Albert Schett
fon: +49 40 42824-728
daniela.scherz@kb.hamburg.de
www.hamburg.de/denkmalschutzamt

Hamburg | Coordination Center for Climate Issues

Ministry for Urban Development and Environment Hamburg
Cordelia Koenig
fon:+49 40 42840-2915
cordelia.koenig@bsu.hamburg.de
www.hamburg.de/bsu

BAU

Vocational Training Centre Hamburg
Jens Schwarz
fon: +49 40 63900318
jens.schwarz@azb-hamburg.de
www.azb-hamburg.de

Landes-hauptstadt Kiel

City of Kiel
Environment Department
Jens-Peter Koopmann
fon: +49 431 9013738
jens-peter.koopmann@kiel.de
www.kiel.de

STOCKHOLM CITY MUSEUM

City of Stockholm
Stockholm City Museum
Lisa Sarban
fon: + 46-8-508 31 552
lisa.sarban@stockholm.se
www.stadsmuseum.stockholm.se

Energikontor Sydost

Energy Agency for Southeast Sweden

Stefan Olsson
fon: +46 70-989 01 81
stefan.olsson@energikontorsydost.se
www.energikontorsydost.se

SWEDISH NATIONAL HERITAGE BOARD
RIKSANTIKVARIEÄMBETET

Swedish National Heritage Board

Therese Sonehag
fon: +46 851918414
therese.sonehag@raa.se
www.raa.se

City of Malmö

City of Malmö
Environment Department
Roland Zinkernagel
fon: +46 40342079
roland.zinkernagel@malmo.se
www.malmo.se

AALBORG UNIVERSITET

Danish Building Research Institute, SBi at Aalborg University; Department of Construction and Health
Torben-Valdbjørn Rasmussen
fon: +45 99 40 22 72
tvr@sbi.dk
www.sbi.dk

Information Center for Sustainable Renovation NGO (SRIK NGO)
Tarmo-Andre Elvisto
fon: +372 6414434
info@renoveeri.net
www.renoveeri.net

Kothla-Järve Town Government

Jelena Dulneva
fon: +372 3378538
jelena.dulneva@kjlv.ee
www.kjlv.ee

emieco

Centre for Development Programs (EMI-ECO)
Anne Randmer
fon: +372 5049798
anne@emieco.ee
www.emieco.ee

City of Riga
City Development Department
Martins Menniks
fon: +371 29410699
martins.menniks@riga.lv

RTU

Riga Technical University
Institute of Environment Protection and Energy Systems
Prof. Dr. Dagnija Blumberga
fon: +371 670 899 08
dagnija.blumberga@rtu.lv
www.rtu.lv

European Foundation of Monuments Protection
Aleksandra Kociałkowska
fon: +48 58 305 30 20
efoz@efoz.org.pl
www.efoz.org.pl

RCTT BELARUS

Republican Centre for Technology Transfer, Belarus
Dr. Alexander Uspenskiy
fon: +375 296114489
uspenskiy@mail.ru
www.ictt.by

KIINKO

KIINKO - Real Estate Education

Virpi Slotte
fon: +358 400 641 007
virpi.slotte@kiinko.fi
www.kiinko.fi

Vilnius Gediminas Technical University
Jurgis Zagorskas
fon: +370 5 2744719
jurgis.zagorskas@gmail.com
www.msk.ap.vgtu.lt

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