

Editorial

Dear Reader,

the last six months have been very busy in Co₂olBricks with two partner meetings, three conferences, the publication of two baseline studies, six national workshops resp. seminars, a new German national funding program for energy efficiency in historic buildings and last but not least a best practice report on energy efficiency refurbishment.

This long list of a wide variety of activities shows how dynamic Co₂olBricks became during the last 18 months and even more shows the ever growing interest and attention to the issue of energy efficiency in historic buildings.

The project is now in its crucial phase because currently the four pilot projects are starting to implement their construction work and the researches are collecting their data.

So next time we probably will have very interesting interim results to tell mainly on how the practical implementation got ahead.

Yours sincerely



Co₂olBricks Project Coordinator



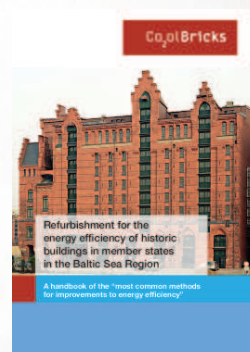
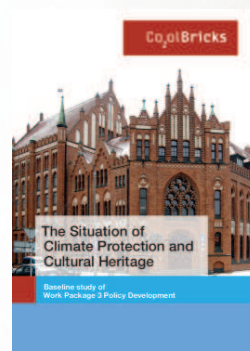
First two Baseline Studies published and ready to download

The first two Baseline Studies „The Situation of Climate Protection and Cultural Heritage“ and „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” are published and are available to download on www.co2olbricks.eu.

The Baseline study of Co₂olBricks Work Package 3 - Policy Development - is an inventory of criteria steering climate protection and cultural heritage of the participating partner countries. That are criteria such as cultural heritage and energy legislations, building regulations, EU-directives and their national implementation plus financial mechanisms.

The results of the baseline study appoint topics and themes for expertise seminars and workshops that will analyse it and contribute with their knowledge. Adoption of the results of the baseline study and the consequences from the whole project gives strategic activities which aims at to affect implementation in national and regional development and climate protection plans, in urban development, regulations and legislations etc.

The “handbook of the most common methods for improvements to energy efficiency” is the initial result of the Work Package 4 which gives an insight into common methods of refurbishment for the energy efficiency of historic buildings in eight participating countries of the project. It serves as an exchange for various experiences and shows the different standards in the participating countries. By referring to this handbook, the project partners can start to develop common alternative procedures for refurbishment for energy efficiency which use improved technologies or new methods.



Content

P1 · Editorial | Baseline Studies

P2 · Seminar in Veliky Novgorod

P3 · Youth Workshop in Gdansk

P4 · Conference in Gdansk

P5 · Seminar in Estonia | Dates and Events

P6 · News from Sweden

P7 · News from Sweden

P8 · News from Belarus

P9 · News from Denmark | News from Finland

P10 · Contacts | Imprint | References



New Impressions and good Experiences from Russia Project Partner Meeting and International Seminar in Veliky Novgorod

From 20. – 23. February 2012 the project partners of Co₂olBricks convened for their fifth partner meeting and international seminar in Veliky Novgorod in Russia, ca. 200 km south east of St. Petersburg. From the project 31 persons participated during the first day and 51 additional participants came to the international seminar.

Due to the three hour time difference between middle European time and Russian time the journey takes quite long so the first day was only for travelling.

During the second day a workshop was held to discuss the results of the baseline studies and conclusions by answering the questions

- To what extent are the results complementary to each other?
- To what extent are the results contradictory to each other?
- How are they interconnected with each other?
- What would be suitable measures to improve the situation?

On the third day an international seminar on energy efficiency and monument protection was held. The seminar was opened by the welcoming words of the Mayor of Veliky Novgorod Yury Bobryshev followed by a brief overview over the Co₂olBricks project.

Then the three main working groups Policy Development, Technical Innovations and Education and Economic Promotion gave an insight into their proceedings and interim results.

The main part contained the five presentations by experts:

- Ms Marina Belova, chairwoman of the Housing Management Committee of the Veliky Novgorod City Administration spoke about the “Use of modern technology in the reconstruction and repair of brick dwelling houses”.
- Werner Kaul, researcher at the Hamburg University of Technology gave an insight into the Masonry Facades and Energetic Refurbishment of Brick Walls.
- Then Oleg Arkadiev, climatologist at the Veliky Novgorod United Museum and Reserve and Tatiana Romashkevich, restorer from Veliky Novgorod, made the audience familiar with the “Effect of the environment and natural landscape changes on the state of monuments and monumental paintings in Veliky Novgorod”.
- Afterwards Larisa Bannikova, Deputy Director General for the Restoration and Repair at the Veliky Novgorod United Museum and Reserve, rounded up the lectures by showing us the “Main factors of Destruction of Architectural Monuments on the Territory of Veliky Novgorod”.



After the conference lunch the speakers took the Co₂olBricks partners onto an excursion first to the Kremlin of Veliky Novgorod and afterwards to a restoration workshop. At the Kremlin the participants walked through a building and saw how the refurbishment was done. In the restoration workshop the fresques of a church that was destroyed during the second world war are put back together, it is a puzzle of all in all 1,7 million pieces.

The following day the Co₂olBricks partners travelled back, full of new impressions and good experiences from Russia, and having made new friends with the heritage preservers and conservators of Veliky Novgorod.

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Workshop of Educational Group for Youths from Hamburg, Kaliningrad and Gdansk

During the days from 12.04.2012 till 16.04.2012 students from three schools from Hamburg, Kaliningrad and Gdansk were invited to participate in a Workshop of Educational Group for Youths under the coordination of European Foundation for Monuments Protection.

Polish School of Engineering and Environment was the host of the Workshop. The other two participating schools were Emil-Krause-Gymnasium from Hamburg-Barmbek and Kaliningrad State College of Urban Development.

The aim of this cooperation is to provide students with necessary knowledge to raise their awareness of the need to reduce climate change and increase energy efficiency of brick historical brick buildings in particular.

Participants of the Workshop had a full five day program. Students-guests were acquainted with the host school teaching program, especially regarding such topics as environment observation and protection. They were introduced to the school laboratory and weather measuring instruments. They had chance to listen to the lecture by the experts on history, architecture and energy efficiency in buildings, Dr Jakub Szczepański i Arkadiusz Zalewski.

The participants were divided into three international groups. One of the groups focused on historical aspects. Already in Hamburg they prepared a questionnaire related to awareness of heritage value of brick buildings. It was then spread among Hamburg citizens and results were compared with the parallel questionnaire from Gdansk. The second group was working on social and cultural importance and the aspect of comfort of living in brick buildings. Their aim was to answer: Do we want/need to live in historical brick buildings? The third group made a comparison between energy efficiency of old “untouched” and restored buildings. They used thermo imagining method to illustrate the contrast in heat transfer through brick walls.

To show the difference between old non-restored buildings, old restored buildings and modern eco buildings students were taken for two trips. The first one to Letnica district built for factory workers in the beginning of 20th century. Grzegorz Lechman explained the cultural value of the area, technologies, new materials and conservatory methods used to revitalise buildings.



During the second trip students visited modern ecological district in Osowa. Most of the buildings there are still under development. After the completion the area is supposed to become the biggest eco-residency in Europe. Edifices are furnished with such innovations like solar panels, heat collectors and heat storage systems installed underground.

The workshop was concluded with a tour around main restored monuments and interactive educational center “Hevelianum” created in revitalized brick fortifications.

Results of the Workshop participants presented during the International Conference “Monuments Protection and Energy Efficiency” on 16th of April 2012. In front of their older colleagues – experts from the Baltic Sea Region - they proved their knowledge and awareness of the importance to protect built heritage and expressed enthusiasm to be involved and continue to work collectively to reach common goals in this subject.

The result of collaboration in Educational Group for Youths that began in Gdansk at December 2011, has become a formal, bilateral agreements between schools and European Foundation for Monuments Protection. It opened the possibility for further long-term cooperation.

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Successful International Conference on Monuments Protection and Energy Efficiency in Gdansk / Poland

The European Foundation for Monuments Protection as a Polish project partner on 16.04.2012 organised in Gdansk International Conference on „Monuments Protection - Energy Efficiency“. Purpose of the symposium was to present the Polish specialists, conservators, architects, energy auditors the recent results of the project Co₂olBricks.

Jan Prahm, the Coordinator of the Project, and Aleksandra Kocialkowska, President of The Board European Foundation for Monument Protection welcomed the guests. Opening of the conference was inaugurated by Pomeranian Voivodeship Monument Conservator Dr Marian Kwapinski who expressed his hope that the issues presented at the conference will be further disseminated and implemented.

In Panel 1: „The strategy for brick built heritage in Europe“, the lecturers presented their point of view of their area of expertise and conclusion on the issue. Mr Jacek Brudnicki from National Heritage Board of Poland, presented “Legal aspects of improving energy efficiency of historical buildings”. Mr Grzegorz Rzepecki from Chamber of Architects, presented “Architectonic - urban dilemma: energy efficiency of historical buildings and in complexes of buildings protected by conservators”. Mr Aleksander Panek from Chamber of Energy Auditors, presented “Energy audit in historical buildings”. Summaries conceived Therese Sonehag, Swedish National Heritage Board, Visby.

The second panel was to answer the question: „Brick built heritage - do we have to live in it?“. Finnish architect, Tommi Lindh, said that energy resources must be used sensibly. He tried to convince, that reducing carbon emissions is a method to preserve old buildings. Also in this Panel, young participants of the Workshop for Education Group for Youth from Hamburg, Kaliningrad and Gdansk presented results of their work.

Panel 3 was focused on the issue: „Refurbishment as a threat or an opportunity for brick heritage?“. Albert Schett from Department for Heritage Preservation, Hamburg, presented “Usual way of Refurbishment in Baltic Sea Region”. Rudolf Plagge, University of Technology Dresden, presented “Energetic Internal Refurbishment of Brick Buildings”. “New Technology for internal insulation: Wall Tempering System” was presented by Wolfram Spehr and also demonstrated from the Polish experience in the use of these systems by Tomasz Sumera. Iwona Solisz, the Voivodeship Monuments Conservator from the City of Opole, presented thermo modernization problems related to monuments conservation. Also energy auditor, Teresa Zurek, tried to point out opportunities and barriers created by Polish law.



During the discussion many questions were raised that were aimed for the further work of Co₂olBricks project. There also have been some substantive conclusions: Cooperation is crucial between architect, conservator and energy auditor at the stage of developing a concept design of refurbishment work and thermo modernisation. Training is necessary for conservators, architects and craftsmen on energy efficiency requirements, using the results of energy audits, new technologies and materials. This conclusions, should be remembered for the future.

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Intensive Partner Meeting and Seminar in Estonia

From 21. – 24. May 2012 the project partners held their sixth project partner meeting in Estonia in Tallinn and Kohtla-Järve.

It started with a workshop on the investigation of which energy efficiency measures on a regional level would result in what CO₂-reductions. It could be seen that the switch to 100% renewable electricity production would reduce the CO₂-emissions already by one third. If additionally solar water heating is used, the efficiency of appliances is increased more relevant savings can be achieved. This is important for the heritage buildings because then the pressure to insulate the external walls is lowered. In the evening Mr Juri Kuskemaa guided Co₂olBricks through Tallinn.

On the second day a public seminar on the questions of energy efficiency measures took place covering questions of wall tempering, research activities in Riga and Kohtla-Järve, correct installation of temperature and moisture gauges in walls, about practical thermodynamic simulation of internal insulation, theory of thermodynamic calculations, indoor ventilation and the energy concept of the newly opened Maritime Museum in the Sea Plane Hangar in Tallinn.

The next day Co₂olBricks visited the pilot project in Kohtla-Järve, an old school building from 1939. After welcoming words by the Vice Mayor on Urban Development of Kohtla-Järve Mrs. Riina Ivanova, the Governor of Viru County Mr Riho Breivel and the Member of the Estonian Parliament Valeri Korb in the town hall of Kohtla-Järve three experts informed the participants about the cultural heritage, the technical condition and the energy situation of the building.

Then they went to the actual site and in four groups examined the building on how the energy efficiency can be improved without destroying the cultural values. The suggestions were finally presented in a plenary session.

The last day consisted of an extended guided tour through Tallinn led by the young architect Oliver Orro to many modern and historic examples of architecture. Amongst them was the building of the Estonian Architecture Museum, an old salt storage, the Rotermanni quarter with its mixture of modern and historic architecture, the Seaplane Harbour, the Tallinna Linnahall, a town hall from 1980 which is nowadays abandoned and looking for a new use, an old ship yard, cemetery and the wooden houses ending in Väike-Patarei 5, where the local hosting project partner SRIK has its premises with the Co₂olBricks info centre.

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Dates and Events

- 17.+ 24.+ 31.07.12 | Hamburg | Germany Study Tour and Seminar
„Energetische Sanierung denkmalgeschützter Backsteinbauten“
Conference „Stadtbild & Modernisierung“
20th International Specialized Exhibition „BUDPRAGRES` 2012“
Co₂ol Bricks Midterm Conference
- 29.08.2012 | Hamburg | Germany
- 04.-07.09.12 | Minsk | Belarus
- 17.-19.09.12 | Malmo | Sweden &
Copenhagen | Denmark
- 24.-26.09.12 | Oslo | Norway
- 09.-12.10.12 | Minsk | Belarus
- 12.-15.10.12 | Minsk | Belarus
- 22.-24.11.12 | Leipzig | Germany
- 2nd European Workshop on Cultural Heritage Preservation (EWCHP)
17th Belarusian Energy and Environmental Protection Forum
International Workshop „Innovation Technologies for Improving the
Energy Efficiency in Historic Buildings“
Fair and Conference „denkmal 2012“

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

News from Sweden National coordination meeting and expert seminar in Stockholm



On 1st of February, there was an expert seminar in Stockholm on energy efficiency in historical buildings. The participants came from whole over Sweden.

Mr. Jonas Ericson from Saving Energy Economically/The Environment and Health Department of Stockholm, held a short presentation about a proposed upcoming project that will focus on the difference between theoretical EE and actual EE. The difference is called the energy efficiency gap.

Mr Waldnert from The Real Estate Administration of Stockholm, talked about the cooperation with the Stockholm City Museum and how the cultural values in many ways become more easy to handle once they are defined at an early stage.

The discussion focused cooperation and increased knowledge exchange between energy experts, heritage experts. If the issue of heritage can be addressed at an early stage the technical solution could be adapted to the specific values more easily.

Also the whole lifecycle of the building could be accounted for. The energy used to build an older building is already “paid off” and is it therefore possible to take that into account when setting energy efficiency targets?

The objection was that the energy efficiency measures are calculated from the energy use of the building stock today and that the work to decrease the energy use must continue.

Workshop for Swedish national authorities

The Swedish National Heritage Board has now started with the work to plan for two workshops on the theme “Energy efficiency in historical buildings, means of control, guidelines, competence and methodology”. The workshop is part of Co₂olBricks work package 3.3 Expertises and 3.4 Regional Joint Strategic Activities and will be made in cooperation with researchers from a national research and development programme on energy efficiency in historic buildings. The purpose of the workshop is to gather the concerned authorities to discuss the consequences, of the new energy targets for historical buildings, also to encourage for cooperation in the matters of energy efficiency issues in protected buildings but also for those buildings that do not have such a significant protection as for example listed buildings. The invited authorities are The National Property Board, The Swedish Energy Agency, and The National Board of Housing, Building and Planning. All of these authorities are involved in the process of implementing the EU directives on energy performance into the Swedish law system.

Before the workshop Swedish National Heritage Board is now on a tour visiting each authority presenting the results and conclusions of the baseline study made in work package 3, Co₂olBricks. The point is to give the different authority a possibility to come with input to the programme for the workshop and to save time for more discussions at the workshop in May/June 2012.





Tour and expert workshop

On the 28th of February the first stop at Swedish National Heritage Board's tour was at The National Board of Housing, Building and Planning in Karlskrona, situated on the south east side of Sweden. They are mainly working with the Swedish building regulations and the system for energy audits. They discussed e.g. the need for tools for assessment of cultural values when performing energy audits and the proposal of energy efficiency measures, meaning of reasonable level of reaching the new energy targets in the building regulation in refurbishment and the need for overview of policies and economic instruments to discuss the development.

On the 5th of March Swedish National Heritage Board also had an expert workshop with researchers from the University of Gotland in order to discuss the project "Potential and policies for energy efficiency in Swedish buildings built before 1945" which objective is to describe the consequences, with respect to conservation and technical aspects, of the new energy targets.

Workshop on Redevelopment of "The old gas works area"

On March 22nd the City of Stockholm and the Development administration/Stockholm Royal Seaport, arranged a seminar on the redevelopment of "The old gas works area" of Hjorthagen. The gas works area contains cultural historical values with Swedish architect Ferdinand Boberg's brick gasholders from late 19th century as important landmarks. The gasholders are to be preserved and are earmarked for cultural entertainment.

Tomas Örn from the Stockholm City Museum and the project Co₂olBricks talked about ongoing projects and research programmes on energy efficiency measures and heritage buildings.



Expert Seminar and Workshop on Eco Driving

The Stockholm City Museum has held an expert seminar and workshop on Eco Driving in an Heritage Building. Especially invited was Willy Ociansson who gave the theoretical framework and set up the workshops which was attended by experts in the field of maintenance, and operation of the building as well as craftsmen and conservation officers. The building is an 17th century listed building mainly with plastered brick walls. There is also maintenance program which in detail describes how any new measure should be carried out. The buildings energy system and energy use was made an inventory of and during the workshop a list of proposed energy measurements were made.

News from Belarus

4th International Conference „Energy Efficient Construction“

The 4th International Conference „Energy Efficient Construction: Modern Energy Saving Technologies“ took place in Minsk on February 29, 2012. Over 120 experts from Belarus, Lithuania, Russia and Ukraine participated in the Conference including representatives of the Republican Centre for Technology Transfer (RCTT).

A welcome speech to the audience gave A.V. Minenkov, Head of the Science and Technology Policy and International Relations of the Department for Energy Efficiency of the State Committee for Standardisation of Belarus. Dr. Alexander Uspenskiy, director of the RCTT presented at the Conference the project Co₂olBricks. Natalia Andreenko, coordinator of projects on energy saving and climate change of the international public organisation „Ecoproject Partnership“ delivered the presentation „Energy Performance Certification of Buildings: First Experiences in Belarus“.



3rd Conference

„Reconstruction and Restoration of Buildings: Modern Technologies and Energy Effective Solutions“

The 3rd Conference „Reconstruction and Restoration of Buildings: Modern Technologies and Energy Effective Solutions“ took place in Minsk on May 24, 2012. The Conference was organised by the agency „Community Forums“ and RCTT with support of the BSR project Co₂olBricks.

The Conference gathered over 60 participants, including representatives from the Ministry of Culture, the Ministry of Architecture and Construction, Belarusian Union of Builders, Belarusian Voluntary Society for Protection of Monuments of History and Culture, National Academy of Sciences, universities, R&D institutes, construction companies. Dr. Alexander Uspenskiy, director of the RCTT, moderated the Conference. Participants listened to presentations and discussed issues related to preservation of historical and cultural heritage and the energy efficiency of historic buildings. An excursion to hotel „Garni“ in historical part of Minsk which is currently under reconstruction was organized for participants.

After the Conference participants adopted a resolution with recommendations to state authorities promoting assurance of compliance with UNESCO requirements for the restoration of historical and cultural (architectural) values and their inclusion in the list of World Cultural Heritage, improvement of national legislation on cultural heritage and its harmonisation with EU legislation, improvement of international technology and knowledge transfer.





News from Denmark

Report about the Refurbishment of Faestningens Materialgaard published

A report, produced by Strunge Jensen A/S for Danish Building Research Institute, SBI at Aalborg University, about the Refurbishment of Faestningens Materialgaard was published right now.

The basis for this report is the project Faestningens Materialgaard, owned by Realea and carried out by Realea Byg. The project includes the restoration of four different buildings in the complex Faestningens Materialgaard. An energy analysis of the buildings was carried out as part of the project. The analysis has indicated possible solutions for how the CO₂ level can be reduced whilst at the same time ensuring an internal climate which matches the applicable guidelines and directions from the Danish Working Environment Authority. These solutions have been developed in an interdisciplinary workgroup consisting of the building owners, the authorities (Heritage Agency), the architect and engineers.

This report gathers the overall conclusions from this interdisciplinary work, and describes the cross-discipline challenges, and potential solutions, which are encountered in connection with the restoration of listed buildings.

The aim of the report is therefore to inspire other building owners who face the restoration of a listed building (with the same application) and who desire to focus on an energy-efficient solution and the internal working environment climate conditions seen as a whole. This is relevant for more than 1,000 other listed buildings in Denmark which are used for office purposes.

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News from Finland

National Seminar "Sustainable refurbishments and historic buildings"

Kiinko Real Estate Education organised an open national Co₂olBricks seminar in Helsinki, Finland on 9th of May 2012. Presentations in the seminar covered topics on how to sustainably refurbish historic buildings from the inner climate and building physics point of view. The presentations were given in Finnish, the only exception is the presentation that Estonian Mr. Ilomets gave in English.

Mr. Markku Rantama from Kiinko briefly introduced the Co₂olBricks project. Ms. Seija Linnanmäki from the National Board of Antiquities gave a presentation about built heritage and preservation of it in Finland. Ms. Marja-Leena Sallinen from Kiinko told about project's work in WP5 Education and learning packages to be developed during the project. Mr. Jukka Lahdensivu from the Tampere Technical University pointed out many important facts of building physics to be taken into consideration while planning a refurbishment of a historic building. Mr. Simo Ilomets from Tallinna Tehnical University gave a presentation on technical conditions, indoor climate and renovation demand of brick apartment buildings in Estonia. Mr. Jukka Sainio from Insinööritoimisto Maaskola Oy gave a presentation on air ventilation in refurbishing old buildings.

In the audience were 20 people mainly from educational organisations on the field of real estate from all the levels of the educational system. The discussion with teachers, researchers and other specialist was very fruitful. The results of the seminar will be used in implementing whole projects results in Finland.

all presentations on www.co2olbricks.eu

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