

Bringing Retrofit Innovation to Application in Public Buildings





Eco-buildings concept:

- meeting point of short-term development and demonstration
- support legislative and regulatory measures for energy efficiency and enhanced use of renewable energy solutions within the building sector,
- go beyond the Directive on the Energy Performance of Buildings

Project aims:

- new approach for the design, construction and operation of new and/or refurbished buildings
- double approach:
 1. to reduce substantially or to avoid the demand for heating, cooling and lighting
 2. to supply the necessary heating, cooling and lighting in the most efficient way and based as much as possible on renewable energy sources and polygeneration.

Abstract

- the **BRITA in PuBs** project aims to increase the market penetration of innovative and effective retrofit solutions to improve energy efficiency and implement renewables, with moderate additional costs
- realisation by exemplary retrofit of 9 demonstration public building in the four participating European regions
- by choosing public buildings of different types it will be easier to reach groups of differing age and social origin. Public buildings are engines to heighten awareness and sensitise society on energy conservation

Abstract

- research work packages include socio-economic research such as:
 - identification of real project planning needs and financing strategies
 - assessment of guidelines
 - internet-based knowledge tool on retrofit measures
 - quality control tool-box
- dissemination:
 - training of users and maintenance personnel
 - publishing the research and demonstration work to different target groups by targeted PR-campaigns, using local, national and international networks, the internet and other media and symposia.
- organisation: geographically by region, vertically by incorporating the owners of public buildings, the research team of architects and engineers and the dissemination networks. Managed via biannual meetings, a steering committee and four subtasks on design, implementation, use and dissemination.

BRITA in PuBs

Exemplary retrofit of 9 demonstration buildings:

- college
- cultural centre
- nursery home
- student houses
- church
- library, etc.

Research work:

- real project planning needs and financing strategies
- design guidelines
- internet-based knowledge tool
- quality control tool-box

Dissemination:

- training of users and maintenance personnel
- publishing the work to different target groups by:
 - > targeted PR-campaigns
 - > local, national and international networks
 - > internet and other media
 - > symposia

Objectives

- development of people's consciousness to save energy by exemplary realisations of energy retrofit projects in public buildings:
 - reduction of the primary energy demand > factor 2
 - decrease of the dissatisfaction percentage > factor 2
- cutback on reservations against innovative energy saving retrofit concepts in public building administrations by dealing with arguments and solution methods, reliable information, energy saving potentials and costs. Development of a simple risk analysis method.

Objectives

- increase of energy saving potentials by using synergy effects in connection with other technologies (e.g. reduction of heating water temperature through better insulation)
- development of short and long-term quality control tool-box and evaluation of integral European harmonised assessment methods (CEN-standards, labelling, EU-directive)
- development of national and European benchmarking systems including estimation of potentials for innovative, cost-efficient energy retrofit strategies

Participants

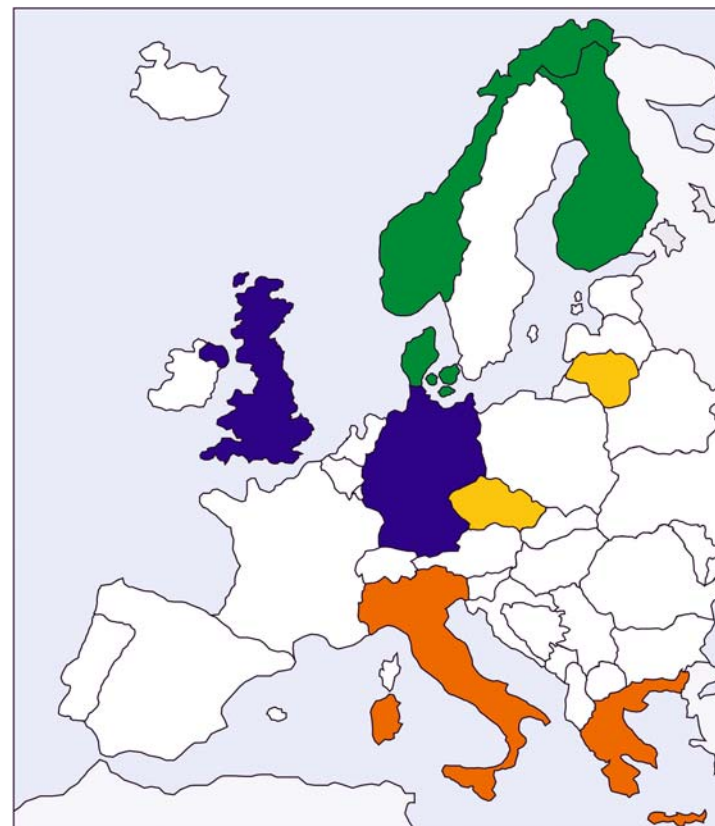
9 countries from 4 European regions:

North: Norway, Finland, Denmark

Central: UK, Germany

South: Italy, Greece

East: Czech Republic, Lithuania



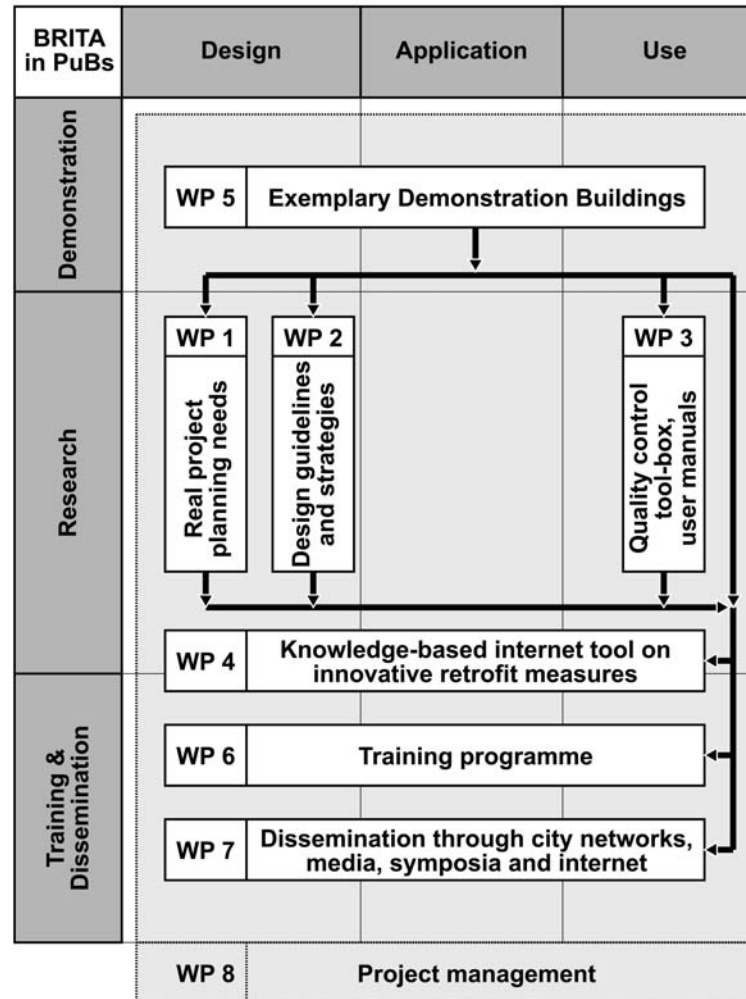
Central North South East

Partic. No.	Research/dissemination partner	Demonstration partner	National co-ordinator	National group		Geographical group
1	Fraunhofer		Fraunhofer	I	Germany	Central
2		City of Stuttgart				
3	IT-Power		IT-Power	II	UK	
4		Educ. Coll. of Plymouth				
5	SINTEF		NBI	III	Norway	North
6		Asker Municipality				
7		Hol Church				
8	NBI					
9	Sunlab		Cenergia	IV	Denmark	
10	Cenergia					
11		UUF Kobenhavn				
12	DBUR		VTT	V	Finland	
13	VTT					
14	ENEA		ENEA	VI	Italy	South
15	Politecnico di Milano					
16		Garboli Conicos				
17	University of Palermo		NTUA	VII	Greece	
18	N.T.U.A.					
19	EuDiti					
20		Evonymos Library				
21		University of Technology, Brno	VIII	Czech Republic	East	
22		Vilnius Gediminas University	IX	Lithuania		
23	FZJ Forschungszentrum Jülich for financial administration and organisation of conferences					

Participants



Project structure and activities



WP1: Real project planning and decision barriers, project needs & financing strategies

Socio-economic research to bring the retrofit technology to application

- what are the barriers against energy saving initiatives in public administrations?
- what type of information is required, when and by whom?
- who are the real decision makers? Role of the building designers (architects and engineers)
- what level of detail of technical information should be presented to which target group?

Economic research to provide insights in different financing strategies

- what different financial mechanisms/strategies are existing in the participating countries, could they be transferred to other countries?

Deliverables

- report on barriers and real project planning needs
- communication guide for targeting information to the specific target groups
- overview on financial schemes identified in each country

WP1: Real project planning and decision barriers, project needs & financing strategies

Project n°: TREN/04/FP6EN/S07.3103R/ 503135

Acronym: BRITA in PuBs

Title: Bringing Retrofit Innovation to Application in Public Buildings – BRITA in PuBs

Instrument: Integrated project
Thematic Priority: 6.1.3.2.1 ECO-BUILDINGS

D5 Socio-economic Analysis on Barriers and Needs

Revision: 0

Due date of deliverable: 31/10/2005 Actual submission date: 31/10/2005
Start date of project: 1/5/2004 Duration: 48 months

Lead contractor name for this deliverable and organisation:
Kari Thunshelle
Norwegian Building Research Institute

Project coordinator name and organisation:
Hans Erhorn
Fraunhofer Institute of Building Physics

Dissemination guide
Revision: 0

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)

Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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Thematic Priority: 6.1.3.2.1 ECO-BUILDINGS

D6 Dissemination guide

Revision: 0

Due date of deliverable: 31/12/2005 Actual submission date: 16/11/2005
Start date of project: 1/5/2004 Duration: 48 months

Lead contractor name for this deliverable and organisation:
Ove Morck
Cenergia Energy Consultants

Project coordinator name and organisation:
Hans Erhorn
Fraunhofer Institute of Building Physics

Dissemination guide
Revision: 0

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Available soon

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Title: Bringing Retrofit Innovation to Application in Public Buildings – BRITA in PuBs

Instrument: Integrated project
Thematic Priority: 6.1.3.2.1 ECO-BUILDINGS

D7 Overview on Financial Schemes used in the different participating Countries

Revision: 0

Due date of deliverable: 31/10/2005 Actual submission date: 31/10/2005
Start date of project: 1/5/2004 Duration: 48 months

Lead contractor name for this deliverable and organisation:
Euphrosyne Triantis
NTUA

Project coordinator name and organisation:
Hans Erhorn
Fraunhofer Institute of Building Physics

Dissemination guide
Revision: 0

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)

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WP2: Guidelines and tools for choosing the right design strategies

Integrated approach consisting of a comprehensive set of connectable reliable tools

- investigation on methodological and operative aspects with the aim of supporting the design stage with tools and data
- input from the design stage of the demonstration buildings will be collected and compared with the measured/observed data acquired by the case study monitoring phase
- a knowledge system gathered at the NBI will be used as a base for the guidelines

Deliverables

- handbook of design guidelines, tools and strategies for low energy refurbishment of public buildings

WP2: Guidelines and tools for choosing the right design strategies

WP3: Facility management tool – quality control tool-box

Three stage procedure:

1. procedures for benchmarking and short-term measurement procedures, risk-analysis model, LCC-model and energy consumption calculations will be evaluated, adjusted, combined, applied and tested for demonstration buildings
2. commissioning (quality control procedures including short-term measurements) will be taken into use
3. creation of an internet-based energy monitoring tool and facility management tool

Deliverables

- documentation of the quality control tool-box

WP4: Knowledge based information tool - BIT

Provision of profound database

- identification of new retrofit technologies and new building technologies also applicable when retrofitting buildings (efficiency, costs, advantages, synergy effects with other technologies, arguments against reservations)
- presentation of the demonstration buildings in a standardised format in the information tool including lessons learned and how to improve the cost-efficiency

Deliverables

- BRITA in PuBs knowledge-based internet information tool for decision makers and designers

WP4: Knowledge based information tool - BIT

BRITA in PuBs
Bringing Retrofit Innovation to Application in Public Buildings

BRITA in PuBs Information Tool
for Technical Retrofit Measures

WP5: Design, application and validation of exemplary retrofit measures at selected demonstration buildings

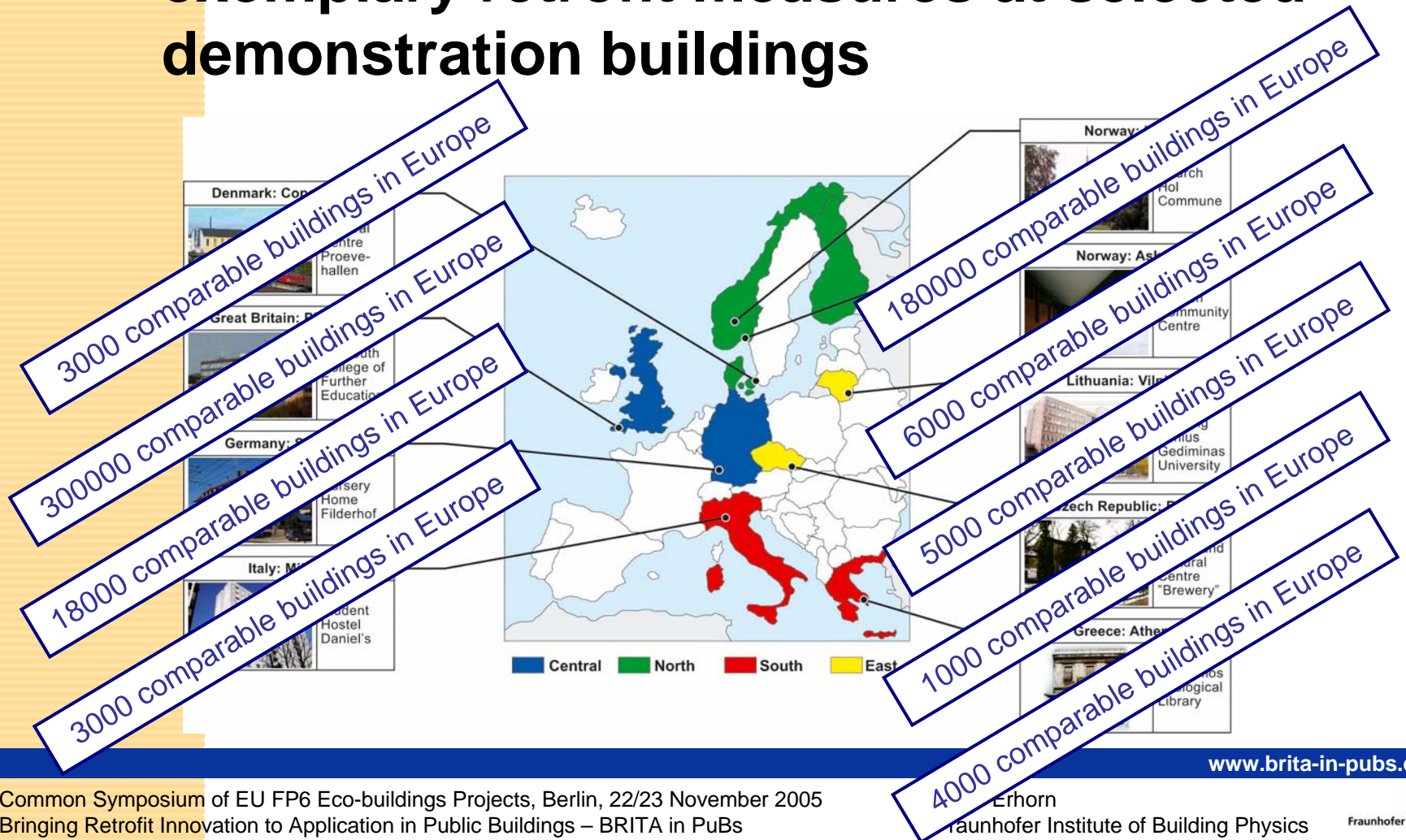
Use of public buildings as shining examples

- different representative building types and selected solutions of innovative character, including integrated planning and being close to profitable
- solution of restraints at the decision-makers by demonstrating the implementation of innovative energy saving renovation technologies in public buildings

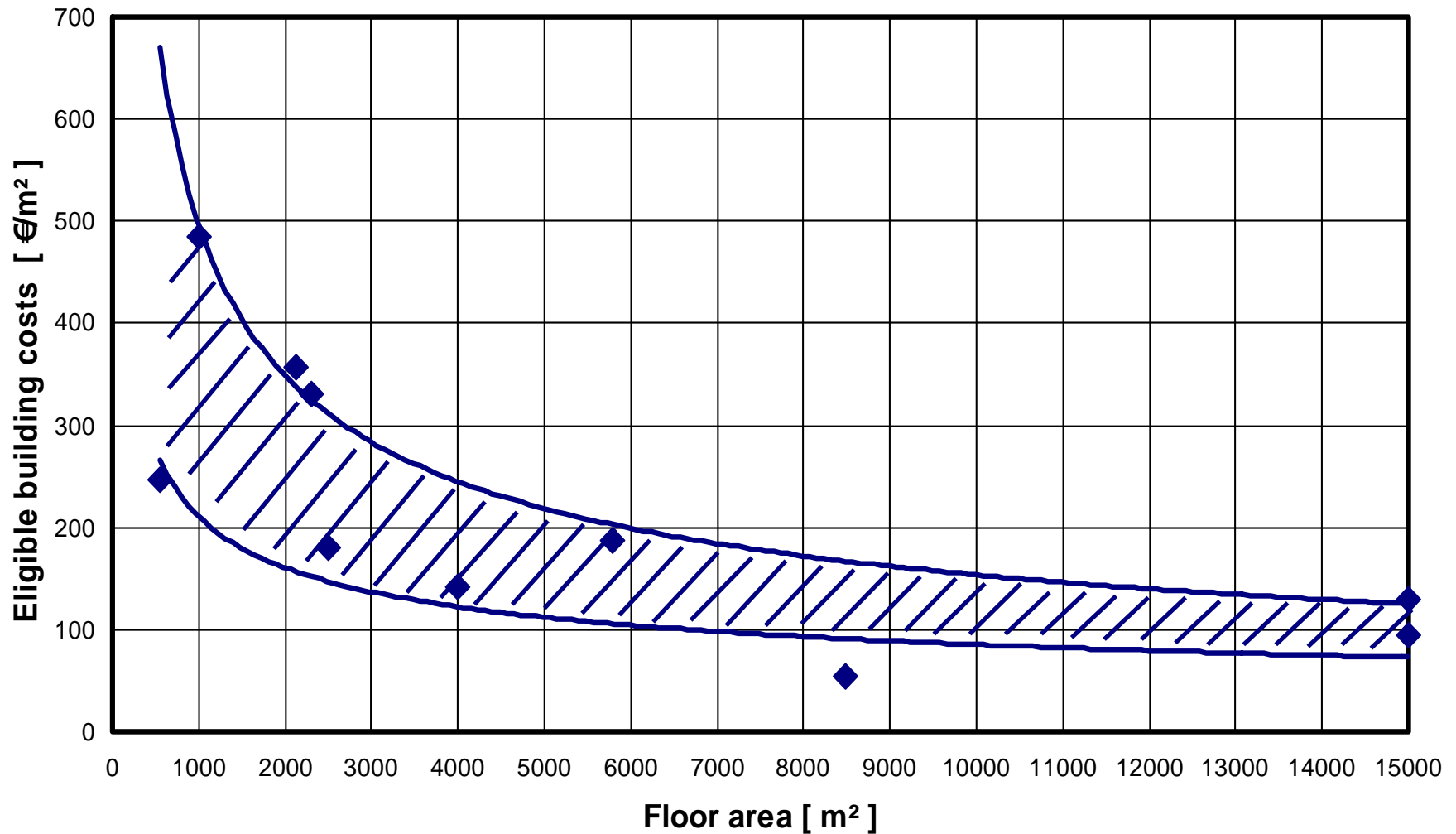
Deliverables

- report on concept development and realisation
- report on the validation including comparison between concept and realisation
- online presentation of the project progress (building diary)

WP5: Design, application and validation of exemplary retrofit measures at selected demonstration buildings



BRITA in PuBs - Eligible building costs (innovative retrofit measures and renewables)



WP5: Design, application and validation of exemplary retrofit measures at selected demonstration buildings

		<p>Project n°: TREN/04/FP6EN/S07.31038/ 503135</p> <p>Acronym: BRITA in PuBs</p> <p>Title: Bringing Retrofit Innovation to Application in Public Buildings – BRITA in PuBs</p> <p>Instrument: Integrated project Thematic Priority: 6.1.3.2.1 ECO-BUILDINGS</p> <p>D8 Reports on the concept development of the demonstration buildings in BRITA in PuBs</p> <p>Revision: 0</p> <p>Due date of deliverable: 31/10/2005 Actual submission date: 31/10/2005 Start date of project: 1/5/2004 Duration: 48 months</p> <p>Lead contractor name for this deliverable and organisation: Marco Citterio ENEA Project coordinator name and organisation: Hans Erhorn Fraunhofer Institute of Building Physics</p> <p>Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)</p> <table border="1"> <tr> <th colspan="2">Dissemination Level</th> </tr> <tr> <td>PU</td> <td>Public</td> </tr> <tr> <td>FP</td> <td>Restricted to other programme participants (including the Commission Services)</td> </tr> <tr> <td>RE</td> <td>Restricted to a group specified by the consortium (including the Commission Services)</td> </tr> <tr> <td>CO</td> <td>Confidential, only for members of the consortium (including the Commission Services)</td> </tr> </table>														Dissemination Level		PU	Public	FP	Restricted to other programme participants (including the Commission Services)	RE	Restricted to a group specified by the consortium (including the Commission Services)	CO	Confidential, only for members of the consortium (including the Commission Services)
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		Energy retrofit measure										Use of renewable energy technology													
		exchangers	high-efficient artificial lighting	combined heat and power unit	condensing boilers	absorption chillers for cooling	advanced control to the heating system	advanced control of the ventilation system	advanced control to the lighting system	long-term-monitoring	use of building mass to reduce cooling and heating loads	shadings to reduce overheating	use of heat-pump in extract air and thermal water storage	tightening the facade	solar thermal collectors for DHW	use of passive solar gains for pre-heating of the air/solar air systems	improved daylighting	PV- integration	solar chimney	use of geothermal heat					
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WP6: Information material for the creating of awareness of different target user groups and lecture preparations

„a sustainable building starts with the user“

„an intelligent building management system, is just as intelligent as the care-taker and the maintenance personnel dealing with it“

Therefore:

- Development of simple black board spreadsheets on how to use/maintain a building correctly, like energy-efficient natural ventilation, which checks have to be made when for heating and ventilation systems, etc.
- Distribution via city and national networks

Deliverables

- Black board information sheets

WP6: Inform aware and le

COOLING VIA NIGHT VENTILATION

ting of er groups



If you wish your room to be cooler tomorrow open the night ventilation vents (NV) before you go home. The night breeze will cool off your room by 2-3 oC and so, you will avoid to use the air-condition early in the morning.
By doing so, you save energy for more demanding tasks and contribute to the protection of the environment.



WP6: Information material for the creating of awareness of different target user groups and lecture preparations

„E-learning is the future. Anyone can accumulate information from everywhere at any time via the Internet“

Therefore:

- E-learning modules on information of the project
- use of existing e-learning platforms like: Lernnetz Bauphysik, etc.

Deliverables

- E-learning module

WP7: Dissemination

1. **Website:** www.brita-in-pubs.com, www.brita-in-pubs.info, www.brita-in-pubs.de
2. **Use of existing networks:**
 - a) local, country specific municipality and professional networks (Städtetag, etc.)
 - b) international by Energie-Cités as subcontractor
„promoting sustainable energy policy through local action“ in 109 cities
3. **Targeted PR-campaign:**
PR-institute as subcontractor for identification of the national target group, direct mail, e-mail campaign, newsletters
4. **Symposium:** common eco-buildings symposium in Berlin
5. **Articles to journals, presentations at conferences etc.**
6. **Common dissemination:** web-portal, newsletter, poster, brochures, meetings

WP7: Dissemination www.brita-in-pubs.com

BRITA in PuBs

Bringing Retrofit Innovation to Application in Public Buildings

Click a flag for national website

- ★ Start
- ★ Summary
- ★ Demonstration Buildings
- ★ Publications
- ★ Links
- ★ Contact
- ★ Participants
- ★ Imprint
- ★ Newsletter
- ★ Newsarchive

EU 6th Framework Programme ecobuildings

WELCOME to the website of BRITA in PuBs

Bringing Retrofit Innovation to Application in Public Buildings.

An Integrated Project within the 6th Framework Programme of the European Union

Questionnaire

We need your opinion on how we can inform you about our results and experiences on energy saving solutions in the best possible way. Below each flag you will find 6 quick questions in your own language that we would kindly ask you to answer.

Latest news

Goals reached in highly innovative low energy community centre in Borgen, Norway

The renovation of Borgen Community Centre has been completed. The goal was to reduce energy consumption by 50% or better. The goal has been reached by a number of innovative low-energy building technologies covering additional insulation, a

eco buildings

WP7: Dissemination



BRITA in PuBs Newsletter no. 2 November 2005

Goals reached in highly innovative low energy community centre in Borgen, Norway.

The renovation of Borgen Community Centre has been completed. The goal was to reduce energy consumption by 50% or better. The goal has been reached by a number of innovative low-energy building technologies covering additional insulation, a natural hybrid ventilation system with inlet towers and underground culverts and heat pump heating.

Prefab slab buildings renovation Experience.

Cost-effective heating energy savings on prefabricated slab buildings is an issue of great importance due to the large number of this type of buildings that exist in Europe and now are in need for renovation. Considerable savings have been realised within the promoter program "Energy Redevelopment InSan" in which modernisation concepts using innovative materials and technologies have been developed and demonstrated.

First BRITA in PuBs Reports available soon

The BRITA in PuBs partners are pleased to announce that the first public results of the project will be publicly available soon. The reports, all of them due after the 18th project month, will be offered for download on the project website (www.brita-in-pubs.com). The documents are:

- Communication Guide
- Overview on international Financial Schemes
- Report on the Concept Development of the Demonstration Buildings
- Proceedings of the 1st Common Eco-buildings Symposium that will take place in Berlin, 22-23 November 2005

2 Wind Turbines on BRITA in PuBs Demonstration Buildings

2 wind turbines partly funded by BRITA in PuBs project have been installed on the Innovation Centre building of Plymouth College of Further Education, situated in the South West of the UK. The wind turbines are mounted directly on the building. The projected output for both amounts to 33800 KWh/yr.

New culture centre showing 50% energy savings inaugurated in Valby, Copenhagen.

On September 3, 2005 Provehallen was inaugurated – a new (completely renovated/retrofitted) sports- and culture centre in Valby, Copenhagen. The predicted heating and electricity consumption will be about half of what they would have been if the energy saving measures introduced by the BRITA-in-PuBs project had not been carried out. The energy saving was reached by a combination of innovative technologies.

To view the news in full go to: www.brita-in-pubs.com

EU 6th Framework Programme: Bringing Retrofit Innovation to Application in Public Buildings – BRITA in PuBs

Project Summary

The BRITA in PuBs project on eco-buildings aims to increase the market penetration of innovative and effective retrofit solutions to improve energy efficiency and implement renewables, with moderate additional costs.

In the first place, this will be realised by the exemplary retrofit of 6 demonstration public buildings in the four participating European regions (North, Central, South, East). By choosing public buildings of different types such as colleges, cultural centres, nursery homes, student houses, churches etc. for implementing the measures it will be easier to reach groups of differing age and social origin. Public buildings can be used as engines to trigger awareness and social activity on energy conservation.

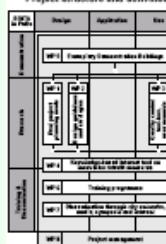
Secondly, the research work packages will include the socio-economic research such as the identification of real pre-planning needs and financing strategies, the assessment of design guidelines, the development of an internet-based knowledge tool on retrofit measures and case studies and a quality control tool to assure a good long-term performance of the building and the systems.

The third main pillar of the BRITA in PuBs project is dissemination. This is divided into a minor part, the training of users and maintenance personnel, and a larger section on publishing the research and demonstration work to different target groups. This will be done in a combination of targeted PR-campaigns and using local, national and international networks such as Energy Cities, the internet and other media, and encouragement and participation in workshops and conferences.

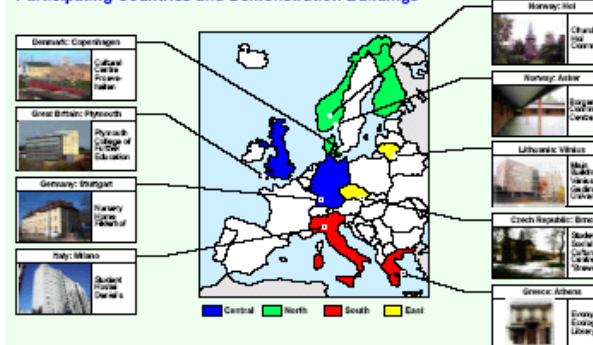
The project will be organised geographically by region and vertically by incorporating the owners of the public buildings, the research team of architects and engineers and the project dissemination networks.

The technology applications include measures at the building envelope like improved insulation and high-efficient windows, advanced ventilation concepts like hybrid systems, integrated supply technologies like combined heat and power units, energy-efficient lighting and integrated solar application.

Project structure and activities



Participating Countries and Demonstration Buildings



Project Partners



Project no. TRN-04-FP6-037.31638/300105
www.brita-in-pubs.com

WP7: Dissemination

Hotel Booking

To facilitate your accommodation the following hotels will provide rooms until the 1st November at preferential conditions. Code #EcoBuildings!

Hotel	fon	fax
1 Hotel Tiergarten 4 Single 60,- double 75,-	+49 (0) 30 369664	+49 (0) 30 399 69 736
2 Berlin Mark Hotel 4 Single 60,- double 80,-	+49 (0) 30 8800330	+49 (0) 30 8802804
3 Ibis Potsdamer Platz 4 Single 75,25 double 98,25	+49 (0) 30 261000	+49 (0) 30 26 10 62 22
4 Mercure Mitte 4 Single 75,- double 100,-	+49 (0) 30 5165133	+49 (0) 30 51651006
5 Dorag Hotel Großer Karlhof 4 Single 80,- double	+49 (0) 30 246000	+49 (0) 30 2460000
6 Park Plaza am Old Market 4 Single 80,- double 110,-	+49 (0) 30 240600	+49 (0) 30 2406222



Location: Deutsches Technikmuseum Berlin (DTMB),
Trebbiner Str. 9, D-10963 Berlin, Internet: www.dtm-b.de

Participation fee

The contribution towards expenses for each participating person is 116,- Euro. The payment has to be made until 01/11/2005. Please use the form in the attachment.

Eco-buildings

At present the building sector is responsible for more than 40% of EU energy consumption. There are technologies under development, which could substantially improve (up to 30%) the energy performance of buildings, reducing the conventional energy demand in new and existing buildings and substantially contributing to the reduction of energy intensity, through combined measures of rational use of energy and integration of renewable energy technologies. The Eco-buildings concept is expected to be the meeting point of short-term development and demonstration in order to support legislative and regulatory measures for energy efficiency and enhanced use of renewable energy solutions within the building sector, which go beyond the Directive on the Energy Performance of Buildings.

The projects aim at a new approach for the design, construction and operation of new and/or refurbished buildings, which is based on the best combination of the double approach: to reduce substantially, and, if possible, to avoid the demand for heating, cooling and lighting in the most efficient way and based as far as possible on renewable energy sources and polygeneration.

The Symposium is kindly supported by:



Organisation:
Fraunhofer-Institut für Bauphysik
Hans Erhorn
Nobelstr. 12, D-70559 Stuttgart



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+49-2481-913131 fax



COMMON SYMPOSIUM of EU FP6 ECO-BUILDINGS PROJECTS

Deutsches Technikmuseum Berlin
(DTMB)

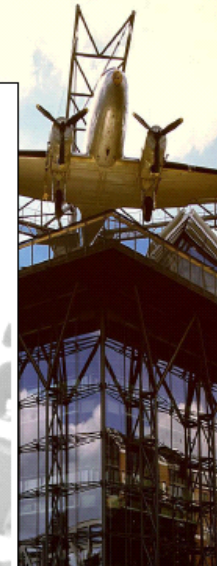
22/11/2005 – 23/11/2005



Presentation and discussion of the first results of the projects:
BRITA in PuBs, SARA, DEMOHOUSE and ECO-CULTURE.

eco buildings

EDITORS: MARKUS KRATZ
HANS ERHORN



EU FP6 ECO-BUILDINGS SYMPOSIUM

DEUTSCHES TECHNIKMUSEUM BERLIN
22 – 23 NOVEMBER 2005




WP7: Common Dissemination www.ecobuildings.info

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- ▶ DEMOHOUSE
- ▶ Eco-culture
- ▶ SARA
- ▶ Events
- ▶ Download page of common material
- ▶ Links to other related sites

Eco-buildings



This is a common portal for four Eco-buildings demonstration projects.


Eco-buildings is an energy demonstration initiative of the European Commission (DG TREN) within the sixth Framework Programme.

The portal will provide common information on project development and links to the individual projects and other relevant sites.

The DG TREN Eco-buildings concept

The building sector is at present responsible for more than 40% of EU energy consumption. There are technologies under development, which could substantially improve the energy performance in buildings, reducing the conventional energy demand in new and existing buildings and substantially contributing to reduce energy intensity, through combined measures of rational use of energy and integration of renewable energy technologies.

The Eco-buildings concept is expected to be the meeting point



 ▶ Webmaster LAJ/COWI
 (Latest update 07.10.05)

WP7: Common Dissemination

eco buildings Newsletter

July 2005
Issue 1

Eco-buildings is an energy demonstration initiative of the European Commission (DG TREN) within the 6th Framework Programme

<http://www.ecobuildings.info>
web-site launch September 2005

The DG TREN Eco-buildings concept

<p>This is the first eco-buildings newsletter. It introduces the concept and the 4 projects in progress and it provides news of progress, of relevant events and of a new call for Eco-buildings proposals.</p> <p>The newsletter is the result of collaboration between the 4. It aims to disseminate the ideas, initiatives and progress of these projects to those involved in construction and building management in order to contribute to continued improvement of energy performance of buildings in Europe.</p> <p>You can expect newsletters every 6 months from now on and can check the project web sites for up to date information.</p>	<p>The building sector is of great importance for more than 40% of EU energy consumption. There are technologies under development, which could substantially improve (up to 30%) the energy performance of buildings, reducing the conventional energy demand in new and existing buildings and substantially contributing to reduce energy intensity through combined measures of rational use of energy and integration of renewable energy technologies.</p> <p>The Eco-buildings concept is expected to be the meeting point of short-term</p>	<p>development and demonstration in order to support legislative and regulatory measures for energy efficiency and enhance use of renewable energy solutions within the building sector, which go beyond the Directive on the Energy Performance of Buildings".</p> <p>Eco-buildings projects aim at a new approach for the design, construction and operation of new and/or refurbished buildings, which is based on the best combination of the double approach: to reduce substantially, and if possible, to avoid the demand for heating,</p>	<p>cooling and lighting and to supply the necessary heating, cooling and lighting in the most efficient way and based as much as possible on renewable energy sources and cogeneration.</p> <p>Four Eco-buildings projects are now in progress as a result of the first call for proposals (submitted 2003). This publication provides news about these four projects.</p> <p>NDM 2004/1/20 Website: www.ecobuildings.info</p>
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Common dissemination activities

<p>Dissemination activities being developed other than this bi-annual newsletter</p> <p>Brochures</p> <p>A brochure with more details of each project will be produced before the end of 2005 and updated towards the end of the projects. pdf versions will be available via the Eco-buildings website.</p> <p>For more details contact the DEMOHOUSE project coordinator:</p> <p>Henk Koon, Energy Research Centre of the Netherlands (ECN) E-mail: koon@ecm.nl</p>	<p>Web site</p> <p>A web site for these four Eco-buildings is under construction. The plan is to have it up and working by September 2005. It will provide common information on project development and links to the individual projects and other relevant sites. The format will be similar to the Eco-culture project site: www.ecoculture.com/en/eco4/e4.htm</p> <p>Contact this project coordinator for more details:</p> <p>Jens Ole Hansen, COMEAS, Denmark E-mail: joh@comeas.dk</p>	<p>Posters</p> <p>Posters of each of the 4 projects and a fifth explaining the Eco-buildings initiative are being prepared. The posters will look similar to the summary information on the projects presented on the previous pages and are designed to be printed at A0 size.</p> <p>If you would like a copy of any poster, the electronic artwork is available from the Brita in PuBs project coordinator:</p> <p>Hans Erhorn, Fraunhofer IBP E-mail: h.erhorn@ibp.fhg.de</p>
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WP7: Common Dissemination

EU 6th Framework Programme: Design and Management Improving the energy performance of Housing – DEMOHOUS

Project no. IITEN/04/FR5N/S07.357.44/503186
www.demohouse.net

The aim of the DEMOHOUS project is to develop minimum standard recommendations in connection to healthy, cost-effective, energy efficient and sustainable rehabilitation of dwellings and to come to understanding on actual quality agreements in the field.

It is aimed in the project to initiate important quality oriented R&D activities, which will be tested in connection to real renovation projects, these are "full size prototype" tests, concerning eco-rehabilitation and best available retrofitting techniques, which can be monitored realistic environment and improved before implementing the development technologies on a larger, European scale.

Per participating country a Pilot project and a Reference project has been defined. The Pilot project is the actual demonstration project the recommendations of the investigations and research are implemented. The Reference project is a housing complex that has recently been renovated (or which is in the process of renovation) according to the usual local standards.

Based on the state of the art within and outside the country concrete solutions will be proposed. The selected solutions will be implemented the Pilot projects.

Per country the selected Pilot project and Reference project will be:

EU 6th Framework Programme: ECO-Culture: Demonstration of ECO-concepts for high cultural buildings

Project no. IITEN/04/FR5N/S07.30002/500070
www.cowiprojects.com/eco-culture

The ECO-Culture project addresses demonstration of energy-efficient technologies integrated into three new-build cultural ECO-buildings. The overall objectives are to:

- Reduce the energy consumption and CO₂ emission related to cooling by 75-80%.
- Reduce the heat consumption and related CO₂ emission by 35%.
- Reduce the energy for ventilation and related CO₂ emission by 50%.
- Use of renewable energy sources, i.e. seawater, ground water, and solar energy.
- Use intelligent control for maximised utilization of the use technologies.
- Disseminate the used ECO-concepts of the high-performing art buildings throughout Europe and beyond.

About 2,400,000 people will visit the three cultural buildings every year. All buildings open in 2008.

Sustainable Architecture Applied to Public Buildings

Project no. IITEN/04/FR5N/S07.31838/503183
www.sara-project.net

SARA aims to construct sustainable, cost-effective, high energy performance public-accessible buildings. The project uses market ready technical innovative and integrated design solutions to demonstrate that significant reductions in the environmental impact of energy use in public access buildings is possible, viable and widely replicable in other buildings.

These buildings are designed to surpass the energy performance required by the recent European Directive on Energy Consuming Buildings. The project is committed to achieving energy savings of 30% compared to current national standards with total construction costs that are 5% higher compared to conventional public buildings in each country. The additional costs in each building are due to the use of more environmentally sustainable architectural practices and techniques, efficient installations, use of renewable energy sources, and automatic energy management systems.

The results will be monitored to measure performance and disseminate the results to future similar actions and achieve the potential replication of the results, thus promoting energy sustainability in built environment from the SARA experience will be disseminated to key markets through particular SARA initiatives and also through common efforts in collaboration with the other "Eco-buildings" contracts of the EC.

The project will therefore contribute to future development of European energy policy and legislation that will accelerate market penetration innovative sustainable technologies.

EU 6th Framework Programme: Bringing Retrofit Innovation to Application in Public Buildings – BRITA in PuBs

Project no. IITEN/04/FR5N/S07.31038/503185
www.brita-in-pubs.com

The BRITA in PuBs project on eco-buildings aims to increase the market penetration of innovative and effective retrofit solutions to improve energy efficiency and implement renewables, with moderate additional costs.

In the first place, this will be realised by the exemplary retrofit of 9 demonstration public buildings in the four participating European regions (North, Central, South, East). By choosing public buildings of different types such as colleges, cultural centres, nursery homes, student houses, churches etc., for implementing the measures it will be easier to reach groups of differing age and social origin. Public buildings can be used as engines to heighten awareness and sensitize society on energy conservation.

Secondly, the research work packages will include the socio-economic research such as the identification of real project planning needs and financing strategies, the assessment of design guidelines, the development of an internet-based knowledge tool on retrofit measures and case studies and a quality control tool-box to secure a good long-term performance of the building and the systems.

The third main pillar of the BRITA in PuBs project is dissemination. This is divided into a minor part, the training of users and maintenance personnel, and a larger section on publishing the research and demonstration work to different target groups. This will be done in a combination of targeted PR campaigns and using local, national and international networks such as energy Cities, the internet and other media, and arrangement and participation in symposia and conferences.

The project will be organised geographically by region and vertically by incorporating the owners of the public buildings, the research team of architects and engineers and the project dissemination networks.

The technology applications include measures at the building envelope like improved insulation and high-efficient windows, advanced ventilation concepts like hybrid systems, integrated supply technologies like combined heat and power units, energy-efficient lighting and integrated solar application.

Project structure and activities

Phase	Design	Application	Use
WP1	Conceptual demonstration buildings		
WP2	Design of demonstration buildings		
WP3	Construction of demonstration buildings		
WP4	Knowledge based assessment tool on innovation retrofit measures		
WP5	Training programme		
WP6	Dissemination through networks, media, symposia and conferences		
WP7	Project management		

Participating Countries and Demonstration Buildings

- Denmark: Copenhagen (Suburb housing blocks)
- The Netherlands: Haarlem (Low-rise multi-dwelling houses)
- Austria: Graz (High-rise multi-dwelling house)
- Spain: Bilbao (Old urban building in the centre of Bilbao)

The buildings and the demonstrations

Participating Countries and Demonstration Buildings

- Norway: Høi (Church for Commune)
- Norway: Askøy (Bergen Community Centre)
- Lithuania: Vilnius (Main Building Vilnius Gediminas University)
- Czech Republic: Brno (Students Social and Cultural Centre "Děvany")
- Greece: Athens (Polytechnic Ecological Library)

For more information on

 BRITA in PuBs

and

 eco buildings

go to

www.brita-in-pubs.com

www.ecobuildings.info