

EULEB – European High Quality Low Energy Buildings

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ABSTRACT

This project is intended to supply information to architects and engineers throughout Europe to support the Energy Directive on Buildings through providing design and engineering details of high quality, low energy consumption public buildings throughout the EU.

Buildings will be chosen from the participating countries (UK, France, Germany, Italy and Spain) as well as from other European countries in different climatic zones. In total this means 25 buildings. The criteria for choice of the buildings will be good design, low energy consumption, the availability of monitored energy consumption and the availability of financial data relating to energy saving features.

The mode of presentation of the information will be through a web based CD which will be distributed as inserts in architectural and engineering magazines in the various countries. It will be navigable through either the individual project or through the particular technology. Detailed information on the building, the technologies, energy savings and cost/benefit analysis will be covered. Translation into English, French, German, Italian and Spanish will be done. In each country, seminars will be launched for wide dissemination of the results and information.

1. INTENTION OF PROJECT

By supplying information on architecture, energy consumption, economical and ecological efficiency as well as the comfort of these innovative buildings in use, the lack of information on low energy architecture and the prejudices lots of people have against it shall be elimi-

nated.

Therefore a CD will be created, providing detailed concrete information on the significant parameters of exemplary buildings in the EU and the experiences in use. The CD will be disseminated by magazines and seminars.

The target groups are the main market actors like public clients, investors, and building industry as well as architects and engineers with their local, national and European organisations.

The public building types chosen are:

- Local Government Office Buildings
- Educational Buildings (kindergartens, schools, universities, libraries)
- Leisure facilities (museums, sports halls, theatres etc)

Buildings will be chosen in each of the above categories from the participating countries which in population term cover a large majority of the EU even after enlargement (UK, France, Germany, Italy and Spain). Furthermore several buildings from other European countries will be added. In total this means 21 to 24 buildings.

The criteria for choice of the buildings will be:

- Good Design, preferably award winning buildings.
- Low Energy Consumption.
- Advanced solutions for architecture, room comfort and technology.
- Different climatic zones in Europe (south, middle, north).
- Availability of monitored energy consumption or easily measurable.
- Availability of financial data relating to energy saving features (RUE and RES).

The mode of presentation of the information will be through a web based CD which will be distributed as inserts in architectural and/or engineering magazines in the various countries. In total it is expected that 150000 CDs will be produced.

Interviews with building-users will show the acceptance and the resulting comfort for the people in innovative buildings.

The format chosen will be based on the SUNH/SHINE CD-Res produced under Altener contract BU1054/96, while the information will be wider and more detailed. In contrast to SUNH&SHINE, which is limited to residential buildings, EULEB will deal with non-residential and public buildings, thus an overlap of projects is impossible. The format will be navigable through either the individual project or through the particular technology. It will therefore include:

- Plans/Sections and Photographs of Building.
- Details of technologies include diagrams of principle of operation and photographs.
- Energy Savings associated with technologies.
- Room comfort.
- Cost/Benefit analysis of technologies.
- Videos with interviews of building operators and occupants.

The CD will therefore encompass:

- Architectural Design Aspects.
- Energy Savings.
- Economics.
- Social aspects.
- Climatic data.

The CD will be offered in English, French, German, Italian and Spanish to offer the information easy understandable to a large number of European people.

Students, who are the key market actors of the future, will be informed about the project during special lectures.

2. EXPECTED RESULTS

The direct outcome of the project is a CD containing significant information on the benefit of low energy architecture and proves the economical and ecological usefulness of existing innovative buildings. The CD will be easy and comfortable to use by navigation through either

the individual project or through the particular technology.

By dissemination through special magazines lots of committed architects, engineers, investors, public clients, contractors and decision makers and students all over Europe can be directly received. The addressing of decision makers and key market actors will lead to a multiplying effect, as they have influence on the project specifications and the solution. Students, who are the architects and engineers of the future, will be informed about the project during special lectures. Within seminars, congresses and fairs the results of the project can be explained furthermore to a large group of persons of different target groups.

During the project there will be brief 6-monthly progress reports (PR) which will be published on the Website and the Newsletter of the REHVA-Partner. The forum of clients, investors and contractors with their umbrella associations will be addressed during the progress of work. By this a specified group of people from this forum can be easily reached and informed about the actual progress.

As the most important impact a significant change in future architecture towards high quality low energy buildings can be expected. If the lack of information and the existing scepticism lots of decision makers have can be cleared, this will be the ignition for a metamorphosis in architecture away from technically old-fashioned, energy wasting building concepts towards a modern, innovative and optimised way of building.

This will help to reduce energy consumption in buildings, which e.g. in Germany amounts around 30 % of total energy consumption. It is absolutely necessary to tap this potential to achieve the national aims in CO₂-reduction and hereby to fulfil the objectives of the Kyoto protocol and avoid further global warming.

Innovative building concepts for different climatic regions in Europe mostly imply a precise examination of the resulting comfort. By the results of this project it will be shown, that this leads to high quality buildings that give a maximum of comfort to the users.

Besides the environmental benefits, reducing energy consumption and increasing the proportion of regenerative energies in building concepts also reduces the national and continental

global energy supply dependency. This will be achieved by less oil-, gas- and electricity-requirements.

3. TARGET GROUPS AND KEY ACTORS

The main target groups are

- Public clients/building owners and their organisations on European, national and local level.
- Architects (especially middle sized and large offices) and their organisations.
- Engineers and their organisations (building services, buildings physics, structural engineering, facility management).
- Quantity surveyors/building economists and their organisations (Royal Institute of Chartered Surveyors, London).
- Private investors and their organisations, including public private partnerships.
- Organisations of building industry, contractors and manufacturers like FIEC (participation has been confirmed).
- Organizers of fairs and congresses for clients, investors, contractors and planners: EXPO-REAL, Munich, MIPIM, Cannes.
- Students of architecture and building/mechanical engineering.

Low energy architecture always has to be specific to climatic, local and national boundary conditions. That is why it is important to create an international project partnership, not only to achieve an inner-European technology exchange but also to give ideas and arguments related to different problems.

By this matter of fact each of the project partners can be seen as key actors to reach the project results and the expected impact.

As the lecture of specialised magazines (for building economy, and industry as well as architecture, civil engineering, building physics, building services engineering etc.) is very common, all of these target groups will be reached by this essential way of dissemination. Additionally European umbrella organisations will be addressed.

With 25 countries and more than 110.000 personal members the project partner REHVA (Federation of European Heating and Air-Conditioning Associations) is the biggest HVAC (humidification, ventilation, air-

conditioning) organisation in the world. This organisation offers a forum and publishes articles and journals related to this subject that reach another large number of persons of the target groups described before and will be helpful with dissemination. As the partner REHVA will be editing the (interim) results and publish them permanently on their homepage, it is also a key actor for this project.

Architects and engineers as well as building industry also will be reached via professional associations, which inform with their own journals and newsletters a huge number of target persons.

The target group of students will also be reached by the university partners, who will introduce the project and report about the progress during their lectures to these future decision makers.

Finally the participation at the seminars offered by each of the project partners addresses to all of the target groups and will bring the detailed information to further persons all over Europe.

4. PROJECT PARTNERS



Universität Dortmund,
Lehrstuhl für
Klimagerechte Architektur



London Metropolitan University,
LEARN



Università degli Studi di Firenze,
ABITA



Université de La Rochelle,
LEPTAP



Universitat Politècnica
de Catalunya



Federation of European heating
and air-conditioning associations

5. PROJECT CONTRIBUTIONS

We are thankful for information, especially for the following topics:

- Low energy and high quality buildings.
- Public clients, architects, consultants of buildings.
- Magazines for CD distribution and project reports.
- Key actors of the building market and their organizations.
- Congresses, seminars, fairs which are looking for project contributions.

6. PROJECT CONTACT

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