



Applying the EPBD to improve the Energy Performance Requirements to Existing Buildings – ENPER-EXIST

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ENPER-EXIST holds workshop session on results of WPs 1-3 at EPIC/AIVC conference by H. Erhorn-Kluttig (FhG-IBP)

A label for French low energy buildings by J.C. Visier (CSTB)

Second ENPER-EXIST workshop session at EPIC/AIVC conference: Towards an energy efficient building stock in 2020 by H. Erhorn-Kluttig (FhG-IBP)

Announcements workshops conferences etc.

Congress of the German Ministry for Traffic, Buildings and Urban Development „Building energy efficiency!“ at the BAU 2007, International Congress Centre of the Munich Fair (ICM) in German and English for further information see: <http://www.bau-muenchen.de/id/58163/cubesig/2f185dea55bba43de723ac58011dc0b>

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ENPER-EXIST holds workshop session on the results of work packages 1 to 3 at the EPIC/AIVC conference in Lyon

Under the title “Challenges for the implementation of the EPBD – Application to existing buildings” the 3rd project workshop took place on Tuesday 21/11/06. It was chaired by the project coordinator Jean-Christophe Visier from CSTB and the IEA project officer Allan-Gordon Sutherland and was attended by 55 people from various EU Member States as well as other countries, incl. the US. The EPIC/AIVC conference had participants from 35 different countries.

J. C. Visier opened the session with a short introduction into the programme of the session which



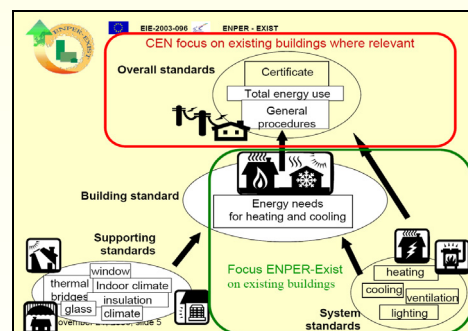
covered 3 presentations on the results of the ENPER-EXIST project and a presentation on the status and results of EPA-NR, another IEA project, which has a long-lasting collaboration with ENPER-EXIST.



Dick van Dijk (TNO) then reported on the experiences of work package 1 “tools application”, the challenges to calculate the ratings for existing buildings. The task had two objectives: to

identify the gap between CEN and the practice for existing buildings and to make recommendations like pros and cons of different options within the CEN standards. He clarified that ENPER-EXIST focused on the building and system standards. The assessment of the energy use for existing buildings is different from that for new buildings since the objective is mostly informative (status of the building) and the level of input data differs. Dick presented some concrete results: CEN agreed to the

comments of ENPER-EXIST that simple methods are needed for the reduction of the data acquisition for existing buildings in such areas as thermal bridges, sunspaces, etc. and that annexes with example values have to be included. CEN also took over various advices, e.g. that local heating systems have to be regarded not only by having low energy consumption but also by providing poor thermal comfort. Additional input from the project was the investigation of alternative methods like the available national methods and the national databases and libraries. The findings in the work package are also that the selection among different options for calculation should be facilitated by indicating which is the most suitable one for existing buildings. The definition of the input parameters to describe the building systems should be simplified by a European database and informative annexes to the CEN standards for the countries that have no national database available. The draft report and working documents of the work package are available (also for comments) on the project website (<http://www.enper-exist.com/results.html>).

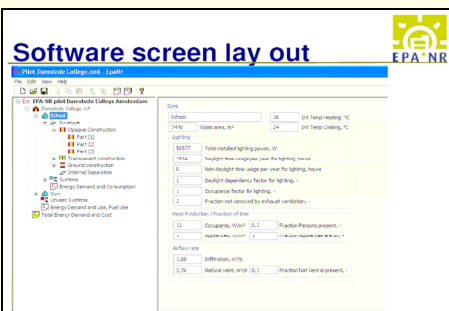


Rofaida Lahrech from CSTB gave the presentation “EPA-NR put into practice”. She explained the project objective to be the production of a general method for the assessment of energy performance of existing non-residential buildings that can be easily applied in practice and adjusted to local conditions. After listing the project partners and the key issues, the balance of effective and efficient process and the accuracy and the reproducibility of the method were

ENPER-EXIST holds workshop session on the results of work packages 1 to 3 at the EPIC/AIVC conference in Lyon (cont.)

described. The EPA-NR method offers tools for the different process stages:

- an intake interview checklist for the intake stage, which aims to facilitate the first contact with the client and the first approach to the building
- an inspection protocol including an inspection checklist and national and international tips for the data acquisition stage (building inspection). This stage of the process enables to collect the data which will be necessary to run the calculation software and also to point the possible improvements for energy savings
- the EPA-NR calculation tool for the calculation and analyses stage. It calculates the energy performance of the building and assesses the impact of energy saving measures
- the national reports from the results of the pilot projects as examples for the reporting stage. The pilot projects cover 21 projects from 3 sectors: education, offices and health care.



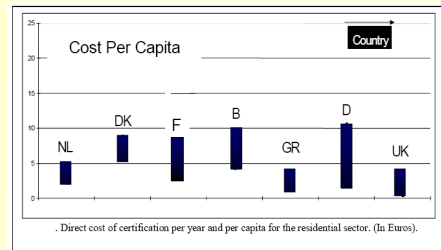
Observer countries are also invited to do their own pilot studies. R. Lahrech summarised the first feedback on the checklist for the intake

interview and the inspection protocol, which were very positive. The tool will be available from June 2007 on the EPA-NR website (www.epa-nr.org).

Mat Santamouris (NKUA) made the next presentation on "A holistic vision of interrelated non-technical aspects." As leader of ENPER-EXIST work package 2 he first listed the tasks according to the project plan:

1. the impact on the certification process in the market. This was covered by the calculation of the direct costs (with two scenarios: high number of certificates and costs and low numbers for both), by calculation of the indirect costs (paid by the tax payer as well as absorbed by the market) and the impact on the labour. Additionally possible economic schemes to finance the application of the certification process were collected.
2. the impact of the certification process on the human capital. Here the nature and qualification of the certifiers and the necessary training effort, task and responsibility and different needs for the various types of buildings were analysed.

3. the necessary structures and transformations in the Member States. The necessary new structures in terms of preparatory, accreditation and post auditing services have been investigated.

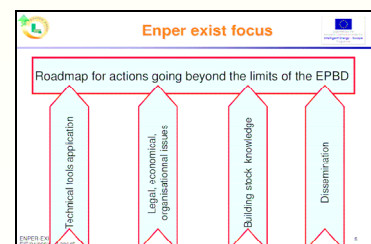


Kirsten Engelund Thomsen from SBI reported on the results of work package 3 "Building stock knowledge" including Danish experience from labelling. She pointed out that the final draft of the report on the existing building stock knowledge is available for download and comments on the ENPER-EXIST website. It includes the gathered information from the project, other projects, internet sources and currently ongoing labelling schemes and proposes how to improve this knowledge. A chapter is focused on the experience from the Danish labelling scheme. Together with data from the so-called BBR register which includes building floor and component areas, construction types, U-values, etc. typical building models have been created. Hereafter potential energy savings due to energy retrofit measures and new requirements can be calculated. In the WP3 report is also a recommendation for a minimum set of information that should be recorded for a useful labelling database.



Content	DK	F	B	GR	D	UK
Characterisation of existing building stock						
# buildings						
area / type						
typical construction						
material						
estimate						

The wrap-up of the session was made by J. C. Visier. He also reminded on the different dissemination means of the project besides the workshops: the newsletter, the website and the (draft) reports. All presentations are available on the project website.



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A label for French low energy buildings

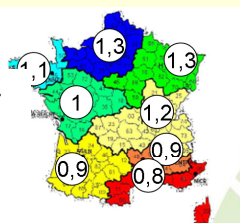
The Effinergie Association aims at supporting the development of low energy buildings. It groups regions, regional associations, manufacturers, CSTB and banks. Following a technical study the association is defining a label for low energy buildings.



The considered energy flows will be the same as the flows considered by the Energy Performance in Building Directive i.e: heating, ventilation, domestic hot water, lighting and cooling. The calculation procedure is the one used for the French energy regulation which is highly linked to European Standards.

For residential buildings the mean value to be achieved is 50 kWh/m².year of primary energy. In order to take into account the different climates throughout the country this limit is corrected by the

50 kWh/m².year *



factors defined on the following map.

For non-residential buildings the threshold is equal to 50% of the limit set up by the energy performance regulations. Thresholds for existing buildings are under definition.

The association is working in close collaboration with the French Agency for Energy and Environment (ADEME) and the ministry of housing. No doubt that this action is in line with the Action Plan of the European Commission which aims at developing very low energy consumption buildings.

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further information: <http://www.effinergie.org/fr/>

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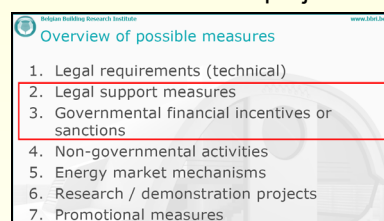
Second ENPER-EXIST workshop session at the EPIC/AIVC conference in Lyon: Towards an energy efficient building stock in 2020

The second workshop session was held on Wednesday 22/11/2006 and had the title "Towards an energy efficient building stock in 2020". The different invited speakers reported about energy efficiency measures in the existing buildings stock. The chair was comprised of Peter Wouters from BBRI and



Albert Dubler from the Architects' Council Europe (ACE), who welcomed the audience of about 45 people. P. Wouters introduced into the theme by making the relation between the global temperature increase and the importance of the building sector for saving energy and by that CO₂ emissions. He mentioned two examples on policy programmes for energy savings in buildings, the French Factor 4 programme and the new energy saving goals for the Flemish region in Belgium.

Since the planned speaker Xavier Loncour from BBRI could unfortunately not attend the conference Peter Wouters also held the first presentation "Roadmap for future actions regarding the energy performance of existing buildings" on the first results of ENPER-EXIST work package 4. The project team is analysing supporting measures in the existing building stock. The measures are distinguished by the building type they can be applied to (residential, non-residential and public buildings), the type of work: new construction, existing buildings (sale, rent, renovation), all to be applied at specific moments and on the other hand actions at no specific moments. The different type of actors and the barriers are analysed as well as positive motivations and supporting measures (legal requirements, legal support measures, governmental financial incentives, non-governmental financial interventions, energy market mechanisms, research and demonstration projects and promotional mea-



sures). The project partners have investigated in depth special situations like apartment buildings with different owners, social housing etc. After the

presentation one of the listeners proposed to include the increase of carbon taxes as measure. P. Wouters responded that he could not mention all the found measures in the short presentation, but this tax is one of them.

The next presenter was Soeren Aggerholm from SBI and he reported on "Energy saving measures in existing buildings in Denmark". The presentation focused on three parts: previous experiences with labelling in Denmark, the implementation of the EPBD and future actions.

The previous experience is based on two previous mandatory labelling schemes, one for small and one for large buildings. About 40000-45000 small buildings were labelled per year and in total approx. 400000 buildings, which corresponds to about 20 % of the buildings in the country within this group. For the large buildings a somewhat different kind of labelling existed. For the implementation of the EPBD on the existing building stock, Denmark has decided to use the 25 % rule. If a renovation measure includes more than 25 % of the



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Please visit also the website of ENPER-EXIST:
www.enper-exist.com

Second ENPER-EXIST workshop session at the EPIC/AIVC conference in Lyon: Towards an energy efficient building stock in 2020 (cont.)

building envelope or results in more than 25 % of the building value, the owner has to apply cost-efficient energy saving measures. Often these measures are described in the label. The measures include U-values for the building envelope, efficiency figures for boilers and ventilation systems. Small buildings have however no 25 % rule, but they are also required to include cost-efficient energy saving measures for all main building parts in the case of renovation. The system shall be controlled by two different things: the need of the professionals to follow the rules for not being sued and the renters that have interest to keep the building owners on track. The future measures foresee the tightening of the requirements for 2010 and 2015 with additional 25 % savings respectively 50 % savings and the aim is also to tighten regulations for existing buildings. Additionally there is an agreement between the government and the energy supply companies (power, natural gas, district heating and heating oil) about the following energy savings:

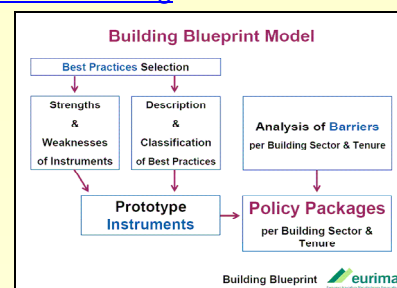
Agreement between government and energy supply companies	
Energy savings 2006 - 2013 under negotiation:	
Power suppliers	1.4 PJ/year
Natural gas suppliers	0.5 -
District heating suppliers	0.9 -
Heating oil suppliers	0.2 -
Energy suppliers	3.0 PJ/year
Public initiative	4.5 PJ/year
Total	7.5 PJ/year

Together with the public initiative of 4,5 PJ/year the result will be savings of 7,5 PJ/year.

Frank Klinkenberg from Klinkenberg Consultants reported on a study he made for Eurima: "Building Blueprint – endorsement schemes for building energy efficiency improvements in the EU25". The work included a scan of existing building energy efficiency programmes in many countries. The building blue print model offers a best practice selection that was analysed by the strengths and weaknesses, descriptions and classifications, prototypes of instruments and the analysis of barriers. The result are recommendations for 11 different policy packa-



ges divided in sector and tenure. F. Klinkenberg gave examples for the policy packages and mentioned the new European funding JESSICA. Further information on the study will soon be available on the EURIMA website www.eurima.org.



The last presentation was made by Francis da Silva from Saint-Gobain on "the vision of the industry". For a massive decrease of the energy use in buildings he grouped the measures to:

1. insulation of the building envelope
2. improving the air-tightness
3. energy efficient ventilation

He pointed out that the division of the energy consumption by factor 4 is technically and economically possible and politically and socially necessary. It has to be assured that all actors in the construction process feel concerned and are involved. Saint-Gobain is partner in the industry group "isolons la terre contre le CO2". The mission of the group is to inform on and to promote energy efficiency, to convince opinion leaders on the importance of the measures, to make professionals and end customers aware of existing technical solutions and to install a new label for new constructions and renovations according to high energy efficiency standards. They are doing cooperations and exchange with other actors like studies, campaigns, fairs and conferences, press relations, lobbying, training sessions and partnering on significant projects. They are also one of the 10 founding members of EFFINERGIE, the French adaptation of the Swiss Minergie and they plan to emerge this network into Belgium and the Netherlands.



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