



Project no. 022718

LEnSE

Methodology Development towards a Label for Environmental,  
Social and Economic Buildings

SSP Thematic Priority 8.1 Policy-oriented research

## D3.6 Report of Second Trans-national Expert workshop (2<sup>nd</sup> TEW)

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

# **Second Trans-national Expert Workshop (2<sup>nd</sup> TEW):**

## **'Content of the Assessment'**

17<sup>th</sup> April 2007  
Neuchâtel - Switzerland

### **1. Introduction**

Mr Johan van Dessel opened the workshop with welcome statements and a description of the workshop programme.

Following Johan's welcome, Mr Oliver Kornadt started a short round introduction of each external expert as well as each LEnSE partner.

### **2. Presentations**

#### **2.1. Presentations from LEnSE Partners**

There have been two presentations from the LEnSE partners to give the experts an overview of the LEnSE project and an introduction to the structure and format of the methodology.

- Mrs Katrien Putzeys, Belgian Building Research Institute (BBRI)  
*'Overview of the LEnSE project (past and future work)'*
- Mr Tim Bevan, Building Research Establishment (BRE)  
*'Structure and format of the methodology'*

#### **2.2. Presentations from Keynote Speakers**

Keynote speeches were given by

- Mr Frederick Cherqui, INSA de Lyon, France  
*'Example of multi-criteria assessment including environmental and social issues: the ADEQUA project in France'*
- Mr David Anink, W/E consultants, Netherlands  
*'Sustainable tools in the Netherlands'*
- Mr Andrea Moro, iiSB, Italia  
*'Development of an assessment system and its use in public and private initiatives to fund high performance buildings'*

These presentations were mainly introducing similar work in national contexts and formed a basis for further discussion of the development of the sub issues within the LEnSE project.

A copy of all presentation (i.e. from the LEnSE partners and the external keynote speakers) can be found in Annex.

### **3. Content of the assessment**

A presentation from Clare Lowe (BRE) was given to introduce the content of the assessment and form a basis of the following discussions within the workshop sessions in the afternoon. Within the presentation the past steps of the LEnSE project were introduced, i.e. the identification of issues (long and short list), the review of existing methods on an European wide perspective and the development of the content of the method. The development of the sub issues (also shown within the second stepping stone publication) was introduced.

- Mrs Clare Lowe, Building Research Establishment (BRE), United Kingdom  
*'Content of the Assessment'*

Following this presentation there was time for discussion and answering questions.

The experts asked general questions on LEnSE and the methodology for a label for sustainable buildings and also questions about the examples of sub issues which have been included within the second stepping stone publication.

BRE was clarifying the different kind of benchmarks:

- Performance base
- Checklist based
- Process based
- Absolute benchmark

It was noted that the kind of energy use can change from year to year, therefore the methodology has to be flexible and the labelling of a building could need to be carried out more than one time within the life cycle of a building.

## **4. Working groups**

### **4.1 General**

Three work groups were set up to allow a discussion of several sub issues within smaller groups. Therefore the groups were mixed with LEnSE partners and external experts. To allow a wider aspect within the discussion it is assumed that the LEnSE partners and the experts from a same country are set up in different groups.

It was discussed before the workshop that one to two sub issues should have been prepared by each LEnSE partner. This means that each partner should be able to give a short introduction about those sub issues where the most difficulties are expected and / or where most discussion and input from experts is required.

Each working group was provided with a working group leader as the following:

- Group 1: BBRI
- Group 2: Bauphysikbüro Kornadt
- Group 3: BRE

The group leaders gave a short introduction and lead through the discussion within their group. The workgroup leaders have been also responsible for a short summary of the main issues within the discussion.

## **4.2 Group 1**

### **4.2.1 *Participants***

Andrea Moro	(iiSBE, Italy)
Reginal Brown	(BSRIA, United Kingdom)
Jan Tywoniak	(CVUT, Czech Republic)
Johan van Dessel	(BBRI, Belgium)
Katrien Putzeys	(BBRI, Belgium)
Bruno Peuportier	(ARMINES, France)
Christiane Wermeille	(Planair, Switzerland)

### **4.2.2 *Discussion***

#### **1) Neighbourhood impacts**

Katrien Putzeys presented a proposal for this issue. Many different aspects could be included in this issue. It is proposed to include:

- Solar access
- Increase in background noise levels
- Light pollution
- Reduction of privacy for existing buildings
- Wind effects
- Heat island effect

The purpose is to assess the social aspects of this issue, not the environmental aspects (like impact on biodiversity).

The following remarks were made by the experts:

- Heat island effect is also more an environmental aspect, which has an influence on biodiversity. It can therefore be excluded from this assessment
- Changes in transport in the neighbourhood of the building could be included. But this is very difficult to assess
- If changes in transport are included, this could also be included in the assessment of the increase in background noise levels. At the moment, only specific noise sources from the building (e.g. air-conditioning systems) are included.
- Light pollution comprises different aspects (sky glow, light on neighbouring properties, blinding passing cars, ...) The focus should be on sky glow and light on neighbouring properties

## **2) Minimising specific climatological risks**

Christiane Wermeille presented a proposal on how to assess this issue. It uses 4 risk zones and makes a distinction between buildings specifically adapted to the risk and 'standard' buildings.

The following remarks were made by the experts:

- Site selection is usually not based on the presence or absence of climatological risks. It is rather an economic decision
- Risk zones are mostly regulated in urban planning, sometimes also linked with how a building can be built in a certain area (e.g. no cellar in flood risk areas). It is not a question of not building somewhere; it is more adapting the building to the risk. Another example of regulations is the requirement for a certain roof construction in coastal areas or above a certain altitude, because of the wind loads. It should be checked if the appropriate measures are taken to resist the risk.
- Fire risks can not be forgotten (forest fires)
- For the assessment, there can not be a fixed set of risk-zones. This is country dependent: Italy – 4 risk zones, Czech Republic – more a statistical approach, France – statistical approach, etc.

## **3) Internal user amenities (private space and conviviality)**

Bruno Peupartier presented a proposal on how to assess this issue. He proposed to rename the issue into 'internal user amenities' and to assess the participatory process which was used to establish these amenities.

The following remark was made:

- The best way of assessing this issue could be to first check quantitatively (how many amenities are there) and then qualitatively (how are they determined and established).

Bruno Peupartier appreciated this suggestion and will try to revise the assessment of the issue accordingly.

## **4.3 Group 2**

### ***4.3.1 Participants***

Stephane Citherlet	(HEIG-VD, Switzerland)
Frederic Cherqui	(INSA de Lyon, France)
Freek den Dulk	(Piode, Netherlands)
David O'Rorke	(Imperial College London, United Kingdom)
Oliver Kornadt	(Bauphysikbüro Kornadt, Germany)
Karl Wallasch	(Bauphysikbüro Kornadt, Germany)

### ***4.3.2 Discussion***

David O'Rorke: "**Design quality**"

- It is understood that the sub issue "Design Quality" refers to the aesthetic point of view regarding to a building. Although it could also refer to technical aspects (i.e. energy efficiency, material efficiency, integration to other surrounding buildings,

etc.). But it is the opinion of the workshop participants that other sub issues are already covering those subjects.

In summary the sub issue could be supported by a questionnaire, which is handed out to people who use the specific building but also to those who work / live adjacent to the building. The questionnaire should cover issues like efficiency (less space for architecture), form and function of the building, human scale, flexibility within the building etc.

See also table 3 'Sustainable Theme: Social' at page 9 within second stepping stone publication.

Oliver Kornadt: **"Building safety assessment"**

- Within the sub issue "Building Safety Assessment" the issues of security, climatologically or geophysical risks are not included. It is more referring to risks within the building, which could mean a risk for the building itself or for the occupants. Those risks are the risk of fire and the risk of possible accidents. Due to the fact that national building regulations only allow the use of a building if it is safe for people, the sub issue "Building Safety Assessment" could include the checking of the availability of e.g. a fire risk assessment, a report about managing procedures in case of an accident etc.

It is noted that there could be a problem between the individual understanding of safety within a building and the requirements of national regulations. A person could have the opinion that the provision of a sprinkler system is increasing the safety for occupants and the building itself and could be noted in an assessment with a higher performance. But a sprinkler system does not need to be installed in accordance to the national regulations. In this case a building could be code compliant but not necessarily be noted with a higher performance.

See also table 3 'Sustainable Theme: Social' at page 9 within second stepping stone publication.

Freek den Dulk: **"Life cycle cost appraisal – Strategic level"**

- Depending on the point of view, life cycle costs could be counted in different time steps. It is assumed that a private person has got a different understanding of a life cost time cycle than a developer. Also the life cycle cost for a building could be based on a different time cycle than the sustainable concept. Often those life cycle cost for a building are much more lower than the sustainable life cycles.

See also table 4 'Sustainable Theme: Economic' at page 10 within second stepping stone publication.

## **4.4 Group 3**

### **4.4.1 Participants**

David Anink	(W/E Consultants)
Tim Bevan	(BRE)
Andreas Eckmanns	(BFE, Switzerland)
Petr Hajek	(CVUT, Czech Republic)
Clare Lowe	(BRE, United Kingdom)
Antonin Lupisek	(CVUT, Czech Republic)
Jacques Teller	(University of Liege, Belgium)

Nikos Zarkadis (European Profiles, Greece)  
Giuseppe Piccoli (iiSBE, Italy)

#### **4.4.2 Discussion**

Tim Bevan: **“Exchange Value”**

- Should this issue be considered given the transient nature of markets?
- Can building owners and occupiers influence exchange value, if so how?
- What is an appropriate indicator for this issue?
- Is it appropriate to apply this issue to non-commercial types of buildings such as schools or libraries? If so, should it be measured in the same way as for commercial buildings, such as an office?
- Given that exchange value is affected to a large degree by costs will measuring this issue and encouraging more sustainable exchange value be at the expense of other sustainability related issues such as delivering good design? Or does good design in itself contribute to improving exchange value?

The following comments were received from the group:

- Location of the building is likely to have the largest impact on value.
- Access to green space can also have a huge impact on the cost/value of housing.
  - DA felt that the social issues had little impact on building value in Holland.
- Investors want buildings that will be able to maintain tenancy / occupancy long term:
  - Does reduced energy use / maintenance increase value?
- Labelled buildings are likely to have a higher capital value.
  - SC confirmed that a Swiss bank study showed that in the domestic sector there was an elevated resale value for Minergie labelled buildings.
  - Is increased exchange value actually a result of carrying out the assessment not part of the assessment itself?!
- Could we take a process based approach to the assessment of this credit?
  - Shouldn't be assessed based on actual value as this changes constantly and is difficult to benchmark.
  - Reward buildings where an analysis has been made of the impact of the sustainability benefits on the value of the building?
  - This could be assessed based on the positive impact of achieving certain sub-issues on the value of the building but could be accused of double counting.
  - Reward for promoting / marketing the building as sustainable / LEnSE assessed?
  - Reward for building having a “service manual” as for a car so that buyers could see how it has been run / maintained.
- Do we need to consider the negative social impacts of increasing value e.g. pricing first time buyers out of the housing market?

See also table 4 ‘Sustainable Theme: Economic’ at page 10 within second stepping stone publication.

Nikos Zarkadis: **“Risk & Value Management”**

Nikos Zarkadis presented this sub-issue as being particularly difficult to define and assess especially as there do not appear to be any established methods for measuring or benchmarking this.

The following comments were received from the group:

- The key here is to maximise built value whilst minimising risk
  - There was clear message that it was important to manage and limit risk but not to attempt to eliminate risk as this is unsustainable.
- There is some difficulty in choosing suitable indicators for this sub-issue:
  - Process based approach is likely to be best.
  - Could this be achieved through some sort of risk / value management assessment?
- What are the risks of the design not working?
- Important to define acceptable level of risk early on in project.
- Need a staged approach to risk management with agreed reporting stages but also need to ensure that constant communication is maintained between the design team and client.
- Consider “value engineering” process. How are the needs of the project met adequately to ensure the long term value of the building whilst also delivering it cost effectively?

See also table 4 ‘Sustainable Theme: Economic’ at page 10 within second stepping stone publication.

#### Antonin Lupisek: “**Site Security & Spatial Arrangement**”

Antonin Lupisek explained that they had carried out some initial research into this sub-issue and had found a CEN standard relating to it (CEN ENV 14383-2:2003(E) Prevention of crime: Urban design).

The standard works as follows:

- An initial estimate of crime problems is made for the area.
- An analysis of likely crime problems associated with the building site is then made.
- Solutions are then proposed to address areas of concern.
- The local planning official approves / comments on the above analysis.

CVUT were interested in comments from the partners as to the suitability of this approach and for feedback on whether there were any other similar standards that the partners or experts were aware of.

The following comments were received from the group:

- It was agreed that the CEN standard was a good starting point.
- Could a checklist approach be adopted which could then be used to assess any national local security initiatives?
  - This could be based on the CEN standard.
  - Could be used to recognise the adoption of effective crime prevention strategies.
- DE stated that GPR had a list of 12 issues relating to security that could be assessed.
- TB stated that there were schemes in the UK relating to security such as ParkMark.
  - TB agreed to send details of this to CVUT.
- Need to establish how much emphasis should be placed on designing out crime rather than the provision of extras such as lighting, cameras, fences, security guards etc.

See also table 3 ‘Sustainable Theme: Social’ at page 9 within second stepping stone publication.

## **5. Closure**

Mr Oliver Kornadt gave a feedback of the workshops and thanks the participants for attending the workshop and for their fruitful input into the discussion.

Mr Johan van Dessel thanks also all participants for their coming and especially for their fruitful contributions to the workshop. The LEnSE team will stay in contact with the experts and inform them about future work of the project (e.g. third stepping stone publications, 2<sup>nd</sup> National Stakeholder Meeting, etc.). With many thanks for the good presentations from LEnSE partners and the keynote speakers, Johan van Dessel closed the workshop.

Note:

Due to the change of the agenda, the presentation from Andrea Moro was given after the official closure of the 2<sup>nd</sup> Trans-national expert workshop. But the presentation is listed within 2.2.

## **6. Conclusions**

The first part of the second trans-national expert workshop proved that the methodology towards a label for environmental, social and economic building developed in the LEnSE project is reasonable and practicable. This was a clear statement from the keynote speeches, in which approaches from other organisations were presented, as well as the discussion following the presentations from the LEnSE partners and the keynote speeches.

In the second part of the workshop three workgroups have been formed to discuss complicated sub issues together with the invited experts. During this discussion many details were mentioned by the experts, which will help each LEnSE partner to finalise the descriptions of the sub issues. Further on, it became evident that two main questions have to be answered during the progress of the LEnSE project:

- How will the LEnSE project team deal with the overlap of sub issues and
- How will the difference of national regulations and European wide standards incorporated into the weighting of the sub issues?

In general the workshop was very successful for development of the LEnSE project. The experts gave a very positive feedback on the work, which has been done already within the project. All experts like to stay in contact with the LEnSE team and are looking forward to further phases and the final output of the LEnSE project.

# **Annex 1: Participants**

## **Experts**

**Mr David Anink** (Belgium)  
W/E consultants

**Mr Reginal Brown** (United Kingdom)  
BSRIA

**Mr Frederic Cherqui** (France)  
Institut National des Sciences Appliquées de Lyon (INSA)

**Mr Stephane Citherlet** (Switzerland)  
Haut Ecole d'Ingenierie et de Gestion du Canton de Vaud (HEIG-VD)

**Mr Andreas Eckmanns** (Switzerland)  
Bundesamt für Energie (BFE) – Swiss Federal Office of Energy (SFOE)

**Mr Andrea Moro** (Italy)  
iiSBE Italia

**Mr Giuseppe Piccoli** (Italy)  
iiSBE Italia

**Mr Jaques Teller** (Belgium)  
University of Liege

**Mr Jan Tywoniak** (Czech Republic)  
Czech Technical University

## **LEnSE partner**

**Mr Tim Bevan** (United Kingdom)  
Building Research Establishment (BRE)

**Mr Freek den Dulk** (Netherlands)  
Piode – architects and consultants

**Mr Petr Hajek** (Czech Republic)  
Czech Technical University (CVUT)

**Mr Oliver Kornadt** (Germany)  
Bauphysikbüro Kornadt

**Mrs Clare Lowe** (United Kingdom)  
Building Research Establishment (BRE)

**Mr Antonin Lupisek** (Czech Republic)  
Czech Technical University (CVUT)

**Mr David O'Rorke** (United Kingdom)  
Imperial College London

**Mr Bruno Peuportier** (France)  
ARMINES

**Mrs Katrien Putzeys** (Belgium)  
Belgian Building Research Institute (BBRI)

**Mr Johan Van Dessel** (Belgium)  
Belgian Building Research Institute (BBRI)

**Mr Karl Wallasch** (Germany)  
Bauphysikbüro Kornadt

**Mrs Christiane Wermeille** (Switzerland)  
Planair

**Mr Nikos Zarkadis** (Greece)  
European Profiles

## **Annex 2: Agenda**

### **Agenda 2<sup>nd</sup> Trans-national Expert Workshop**

Tuesday 17 April 2007, Neuchatel, Switzerland

**9.00                    Opening of the meeting**  
Short Introduction of each Participant

#### **Presentation of LEnSE Partners:**

9.15 – 9.30 Overview of the LEnSE Project (past and future work)  
*Johan van Dessel, Katrien Putzeys (BBRI)*

9.30 – 10.00 Structure and format of the methodology  
*Tim Bevan (BRE)*

#### **Presentation of Keynote Speakers:**

10.00 - 10.30 Example of multi-criteria assessment including environmental  
and social issues: the ADEQUA project in France  
*Frederic Cherqui (INSA de Lyon)*

#### **10.30 – 10.45        Coffee break**

10.45 - 11.15 Sustainable building tools in the Netherlands  
*David Anink (W/E consultants)*

11.15 - 11.45 Development of an assessment system and its use in public  
and private initiatives to fund high performance buildings  
*Andrea Moro (iiSBE)*

#### **11.45 – 12.00 Content of the Assessment**

Clare Lowe (BRE)

12.00 – 12.30 Questions

#### **12.30 – 13.30        Lunch break**

## **Working groups**

13:30-14:45 Three working groups

Discussion on sub issues

Group 1: BBRI, Armines, Planair

Group 2: Kornadt, Imperial College, Piode

Group 3: BRE, EURPRO, CVUT

**14:45-15:00      Closure**