

A GABC workshop and the Energy Transition Dialogue in Berlin

Your wandering XD spent the week of March 20-24 in Berlin, participating first in a 1 1/2 day workshop for the *Global Alliance for Building and Construction* (GABC). The purpose of the workshop was to move forward on organizational issues and formulate an action plan for the next six months. Our German hosts at the Ministry have distributed files (see www.iisbe.org) that provide a series of views into the process.

Your XD also took part in a major meeting of energy experts and companies, organized by DENA, the *Deutsche Energie-Agentur*. Dena is Germany's centre of expertise for energy efficiency, renewable energy sources and intelligent energy systems and the main event attracted over 3,000 delegates over three days.



Three excellent all-day technical tours were also arranged, and it was exciting to see some of the advanced work going on in renewables and hybrid-energy power plants. One of the facilities visited was a co-generation plant operated by *Vattenfall*. The facility provides district heating and cooling to about 1000 offices and more than 1000 apartments in central Berlin, all located within about 1 km. distance. The cooling system operates at 6°C and the system generates over 40 MWh of power. One of the users of the district heating and cooling system is the Scandic Hotel, a very large downtown hotel with a strong commitment to sustainability.



A spokesman for another stop on the tour, *50Hertz* spoke on the problems of integrating volatile renewable energy into the transmission grid. We also saw a hybrid-energy plant that combines wind, biogas and hydrogen energy sources operated by *Enertrag*.

Discussions at *Yunicos* and *WindNODE* brought out some of the tricky technical issues involved in increasing the role of renewables in the overall transmission system, due to the increasing instability of the system as the percentage of renewable power in the grid increases beyond certain critical thresholds. We also had interesting discussions about the possibilities of having DC distribution systems in buildings, running in parallel with AC systems.

Given appropriate end-use equipment, such installations would allow locally-generated PV power to be used directly, without losing 9% in conversion to AC. iiSBE has been proposing this kind of approach for more than a decade.

The week, and especially the part devoted to technical tours, was a rich mixture of stimulating discussion and technical demonstrations. It is clear that Germany is marching steadily towards an energy system that will be primarily generated by renewable, wind and to a lesser extent, photovoltaic, sources.

N.L. photos by DENA



Moving towards a CO₂ Budget

Three of our academic members have produced a report that addresses the question of what the implications are for the built environment to keep climate warming well below 2 degrees.

The report is the beginning of a project that will collect explorations in CO₂ emissions from iiSBE members. It is not about politics, or economics, but just an exploration of the remaining the CO₂ budget (which is now below 800 Gt CO₂-e) that remains to keep us below the critical threshold of 2°C., and what can be done to prepare the built environment for a very low on-going CO₂ operational mode.

The critical context is that we have to invest in renewable energy generation, to retrofit houses, and to house two billion more people in the next decades. How does this turn out for operational energy use as well as embodied energy? And what about household CO₂ budgets?

Three initial explorations in this area of research have been made by the launching group, which includes Ronald Rovers, Thomas Lützkendorf and Guillaume Habert. The report can be downloaded from the iiSBE website at www.iisbe.org, and is also found on a dedicated website for the project: www.buildingscarbonbudget.org.

We invite all iiSBE members to add their own explorations to the collection, so that we get a compendium of insights that will help illustrate and visualize the huge task ahead of us. It can also help to decide later on the best strategies forward. The report and website include guidelines for contributions.

We hope many will contribute, the topic is important enough to put in some work!

Ronald Rovers

The URBENERE project

Professors Cristina Engel de Alvarez and Luis Bragança are leading a Latin-American network on Energy Efficient Urban Communities (the acronym of the project is URBENERE) and they hosted a project meeting in Campana, Argentina, during the last week of March. One of the planned outcomes of URBENERE is the development of a method for the sustainability assessment of Energy Efficient Urban Communities.



Cristina and Luis, as coordinators of that network, proposed to the other members of the network that URBENERE should be developed according to the principles of SBTtool.

Readers will recall that SBTtool has been developed over the last 15 years as a generalized and highly flexible framework for the assessment of building sustainability performance.

An opportunity to present, discuss and analyze different approaches to small-area urban performance assessment will occur in the SBE Urban Challenge session at the WSBE17 conference in Hong Kong, during June 5-7.

For further information about URBENERE visit <http://civil.uminho.pt/urbanere/>



For further information about the SBE Urban Challenge contact Andrea Moro andrea.moro@iisbeitalia.org

Contact Cristina Engel at [<engelalvarez@hotmail.com>](mailto:engelalvarez@hotmail.com) and Luis Bragança at [<braganca@civil.uminho.pt>](mailto:braganca@civil.uminho.pt) for more information.

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The CESBA MED Project

The term *Common European Sustainable Built Environment Assessment* is quite descriptive, but CESBA is much easier to say and to remember.

CESBA is quite an interesting and increasingly important group in the world of European urban research. It began as an informal association of individual research groups but has now become a registered non-profit pan-European group.

According to Wiki,... *CESBA is a transnational bottom initiative towards promoting a harmonization of sustainable built environment assessments throughout Europe.*

The development and implementation of new standards require synergic actions and initiatives. There are more than 80 building assessment tools in Europe that have variable elements – ranging from structure, assessment methodology, identified impacts - and use different scoring methodologies. As Europe is a mélange of regional building cultures, European buildings standards must consider regional needs and circumstances. The lack of uniformity makes the comparison of results difficult, and harmonization is a necessary step. Furthermore, the current building assessment tools are not user-friendly enough, and do not cover all phases in the to be used at the beginning of the process for the design of buildings.

The integration and participation of the civil society is essential, using the bottom-up approach to generate a common and mass-oriented, open-source, building assessment guideline. The system of analysis that describes the sustainable quality of a building must be transparent and clearly understandable to the general public.

The CESBA group has now launched a CESBA MED project, which includes a total of 12 partners from 7 European Mediterranean countries, including Italy, France, Spain, Malta, Greece, Croatia and Austria. According to CESBA, the outputs of the CESBA MED project will include the following points:

- Rating/Assessment tools at urban scale for existing neighbourhoods;
- Rating/Assessment tools fully contextualized;
- Integration of the building scale and urban scale assessments in a unique decision making process;
- To consider the building in the context of its surrounding area;
- To design assessment systems to fit public administrations' needs; not for market purposes.

Development of an integrated multi-scale assessment system (urban + building) to support decision making processes for energy efficient public buildings.

The CESBA MED assessment system intends to improve the effectiveness and impact of policies, action plans and planning activities resource efficient public buildings.

By the end of June the project is to deliver a first version of Generic Framework at urban scale, taking into account block/cluster and neighbourhood scales. The Generic Framework is intended to be configured according to the general structure of SBTool, organized in a "Setting" file (that allows to select the active parameters, the weights and benchmarks) and in an "Evaluation" file where indicator values are normalized and aggregated.

Specific project goals include:

- To identify the criteria and relative indicators to be included in the Generic Framework, we are carrying out a state-of-the-art study. We took into consideration some already existing transnational sets of indicators produced by EU projects and assessment tools (i.e. Protocollo ITACA Urban scale). The sets will be "merged" in one that will be used for the Generic Framework. Of course we have to define the structure of the framework in terms of issues and categories.
- To use the generic framework as a base to generate, through a contextualization process, local tools. The tools will be tested on 9 urban areas located in Torino, Udine, Barcelona, Marseille, Lyon, St Cugat, Greece (city tbd), Croatia (city tbd), Malta (city tbd).

The test will be carried out in cooperation with the urban planning offices of each city. This means that the assessment tool will be really adopted by the cities to improve their urban planning activities, in policies, regulations, etc.

Two work packages in the project are totally devoted to transfer and capitalization, and the team will organize training courses, seminars, workshops, info-days, etc.

For the moment the focus is on the development of the Generic Framework.

A possible capitalization of the framework is to transform it in a European pre-standard. We already have the support of the Italian national standardization body for this.

We have to develop a generic framework also at building scale to be connected to the one at urban scale. The first step will be to update SBTool taking in account the transnational indicators produced by OpenHouse and Superbuildings, as well as the new common framework of indicators of the European Union.

Currently, building level assessment tools are well established, but urban scale systems are not. We hope that iiSBE will benefit from this work, starting with the Hong Kong WSBE17 Urban Challenge session. From there, we may be able to establish a new global-level process to define a generic Sustainable Neighbourhood Tool as we did in the past with SBTool.

For more information, contact Andrea Moro at <andrea.moro@iisbeitalia.org>.

Andrea Moro

Final program for WSBE17 Hong Kong conference, June 5-7

Our colleagues in Hong Kong have released the final version of their conference program for the global conference on sustainable built environment, being held on June 5-7. This is a major conference, with over 400 peer-reviewed papers, roundtables and technical tours.

iiSBE is organizing the Sustainable Building Challenge; one for urban area assessment and the other for building performance evaluation (BPE), and there will also be an iiSBE Board meeting on the 4th of June. Many members or friends of iiSBE are participating as speakers and/or delegates, including Thomas Lützkendorf, Joseph Li, Andrea Moro, Antonin Lupisek, Greg Foliente, Luis Bragança, Nils Larsson, Bob Bach, Serge Salat, Mark Gorgolewski, Ray Cole and George Baird. Apologies if I have missed some! You can still register and discounted hotel rooms are available. It is going to be a lot of fun. Download a copy of the program at our website www.iisbe.org.

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Regional versions of iiSBE's Plan B to be developed

iiSBE has completed an updated version of its position paper called *Plan B for Rapid GHG reductions and urban resilience*, which outlines some of the major climate change issues that affect the built environment and what steps may be taken to address them. Three of the files are available on our website at www.iisbe.org.

We are now launching regional versions of this paper. So far we have colleagues in Egypt, Brazil, Philippines and Greece committed to participate. We welcome other expressions of interest to help develop versions that are suited to other regions. Please contact Nils Larsson at larsson@iisbe.org.

Staff

New book on sustainable urbanization by Serge Salat

Serge Salat is a well-known urbanist, artist and researcher who is also a long-time iiSBE member. He is currently carrying out several projects in China, Vietnam and other Asian regions. In the middle of all this, he has found time to write a book with two

colleagues on urban sustainability issues. The book promo is below, and a URL is also given so that you can download a free copy.

Serge Salat, Loeiz Bourdic, Marco Kamiya, *Economic Foundations for Sustainable Urbanization: A Study on Three-Pronged Approach: Planned City Extensions, Legal Framework, and Municipal Finance*, UN-Habitat and Urban Morphology and Complex Systems Institute, March 2017.

Sustainable urbanization requires integrated planning, as it allows cities to come up with a common vision for their development. Lack of integrated action often leads to sub-optimal results and undermines a city's economy and quality of life. As a result, UN-Habitat promotes the Three Pronged-Approach to achieve sustainable urban development, which is founded on a policy triangle comprised of good governance, urban design and municipal finance. Through this publication, UN-Habitat along with 'Urban Morphology Institute, Paris', attempt to show the importance of obtaining parallel results in all the three prongs of urban planning. This publication also sets the basis to select a set of metrics and indicators to measure the components of the Three Pronged-Approach and illustrates how these indicators affect urban productivity. This is an amended and expanded second edition (March 2017).

<https://unhabitat.org/books/economic-foundations-for-sustainable-urbanization-a-study-on-three-pronged-approach-planned-city-extensions-legal-framework-and-municipal-finance/>

The Asia Carbon Footprint Network seminar

KEITI, the *Korea Environmental Industry and Technology Institute* is hosting this event with UNESCAP in Seoul on May 25th. The Seminar will focus on the application of information on environmental performance, and how to use EPDs in building assessment schemes.

The purpose of the seminar is to discuss *EU Single Market for Green Products* initiative and the outcome of the PEF (Product environmental footprint) and OEF (Organization environmental footprint) pilot projects from 2014 to 2017. The seminar intends to show how Environmental Product Declarations (EPDs) are used in green building and sustainable urban planning and development. The event will also introduce the approaches taken in Asian countries such Republic of Korea, Japan and China for the realization of Low-Carbon societies.

About 200 people are expected to participate in the seminar including executives and staff members of the companies that have acquired certifications for carbon footprints, EPD and Green Building in Korea, as well as other interested parties and students. One of the keynote speakers will be Nigel Howard, a long-time iiSBE member and EPD specialist.

Mikyung Lee

MOHURD in Torino

On April 20 iiSBE Italia hosted in Torino a visit by a delegation from MOHURD (the *China Ministry of Housing and Urban Rural Development*). Andrea Moro, iiSBE's regional director for Europe and head of iiSBE Italia, introduced iiSBE and the work they are doing on the development of a generic assessment framework at urban scale.



Andrea also illustrated the software implementation of the assessment tools that iiSBE Italia carried out in the FASUDIR and NewTrend EU projects. The ministry showed interest to join iiSBE and the work group to possibly develop a Chinese urban scale assessment tool.

Andrea Moro

iiSBE advocates sustainable buildings and construction at Habitat III

Working closely with the United Nations Environment Programme (UNEP), iiSBE pushed and continues to advocate for the inclusion of sustainable buildings and construction in the outcome document of the United Nations Conference on Housing and Sustainable Urban Development (Habitat III).

Several advocacy activities were conducted from 2015-2016 with this goal in mind. iiSBE co-organized a side event on urban metabolism in cities during the Asia Pacific Urban Forum in October 2015. It also supported UNEP in the review of technical documents throughout the Habitat III process by providing UNEP with relevant subject experts. iiSBE further contributed by giving inputs to an expert paper on ecology and resilience, an activity that was co-led by UNEP and Rockefeller Foundation (RF) as part of the Habitat III process.

Member states have recognised the importance of sustainable buildings and construction in the current "Surabaya" draft of the outcome document (See: <https://www.habitat3.org>). Member state negotiations will continue this month.

Sharon Gil

SBE Partners meet in Paris to select a proposal for WSBE2020

The Sustainable Built Environment (SBE) series of conferences is operated by the SBE Partnership, a consortium of CIB, iiSBE, UNEP-SBCI, FIDIC and the Global Alliance for Buildings and Construction (Global ABC). At a meeting in Paris on 24 April four proposals were evaluated and one was selected. Go to our website at www.iisbe.org next week to see which proposal was selected.

Nils Larsson, SBE Coordinator