

The Sustainable Built Environment (SBE) conference series









Promoting Policies and Practices for Sustainability



Global Alliance for Buildings and Construction

SBE in brief

- The Sustainable Built Environment (SBE) series of conferences began in 2000, operates on a three-year cycle and is operated by four international organizations
- International Council for Research and Innovation in Building and Construction (CIB, <u>www.cibworld.nl</u>)
- International Initiative for a Sustainable Built Environment (iiSBE, <u>www.iisbe.org</u>)
- Division of Technology, Industry and Economics (DTIE) of the United Nations Environment Programme (UNEP-SBCI, Sustainable Building and Climate Initiative, <u>www.unep.org/sbci/</u>)
- International Federation of Consulting Engineers, <u>www.fidic.org</u>

SBE in brief

- The series is held on held on a three-year cycle with planning in year 1, national/regional conferences held in year 2 and a single global event held in year 3. We are now in Year 2 of the current cycle (national events);
- The series places a core emphasis on peer-reviewed papers, presentations of regional policy papers;
- A small number of best papers from each event is given fasttrack inclusion into the global event;
- Registration policies encourage the attendance of students and delegates from developing countries;
- The conference partners manage the series but each conference is separately managed;

www.sbe-series.org

International Sustainable Built Environment Conference Series





SBE Series, 2016-17 Cycle

Members









| UAE | Dubai | Dubai 17- | | 7-19 Jan 2016 | | Integrating Knowledge for a Greener Future | | | | |
|--------------------------|------------------------------|-----------|-------------------------|--------------------|--------------------|---|---|---|--|---------------------------|
| Italy | Torino | 18-19 | | 8-19 February 2016 | | Towards Post-Carbon Cities | | | | |
| Germany Czech Rep | | lic P | Prague | | 22-24 June 2016 | | Central Europe Towards SB | | | |
| Malta Philippines | | M | Manila | | 13-15 July 2016 | | Sustainable Built [| Desigi | n | |
| Netherlands Singapore | | s | Singapore | | 5-6 September 2016 | | Mitigating Climate Change from ASEAN's perspective | | | |
| Switzerland | Brazil | v | 'itória | 1 | 7-9 September 2016 | | Sustainable urban communities towards nearly zero impact built environment | | | |
| | Canada Tor | | oron | to | 19-20 | September 2016 | Integrating Buildin Communities | ntegrating Buildings and their Communities | | |
| | Finland / Hel Estonia Tal | | lelsinki and Fallinn | | 5-7 October 2016 | | Build Green and Renovate Deep | | | |
| | Turkey | ls | stanb | ul | 13-15 October 2016 | | Smart Metropoles: Integrated Solutions for Sustainable Buildings and Cities | | grated Solutions ngs and Cities | |
| | | | | Greece | | Thessaloniki | 16-19 October 2016 | 6 | Sustainable Syne to the Urban Scale | rgies from Buildings e |
| | | | | China | | Chongqing | 04-07 November 20 |)16 | Low-carbon cities buildings | - Low-carbon |
| SBE events 2016-17 | | | Australia | | Sydney | 17-18 November 20 |)16 | Evidence-Based Design | | |
| | | | Egypt | | Cairo | 29 Nov - 01 Dec. 20 | 016 | Integrate: gate to a sustainable fut | | |
| | | | Sweden | | Malmö | 30 Nov - 02 Dec. 20 |)16 | Nordic Summit | | |
| | | | Korea | | Seoul | 12-14 December 20 |)16 | Sustainability of tall buildings & oth topics | | |
| | | | | | | | | Transforming ou | r Built Environment | |

Hong Kong SAR Hong Kong

June 5 - 7 2017

through Innovation & Integation:

Putting Ideas into Actions

SBE update

On October 3, the SBE partners held its annual meeting to discuss progress to date and future plans;

- Decisions were made about changes to the 2019-20 cycle, expansion of the partner group and leadership of the series for the next cycle;
- For the 2019-20 cycle of conferences, a cap will be placed on the number of European national/regional events, all peerreviewed papers will be indexed and there will be a review of the structure of scientific committees;
- The SBE Partners invited the Global Alliance for Building and Construction (Global ABC) to join the series as a partner, and the offer was accepted by Frédéric Auclair, Coordinator of the Global ABC, with immediate effect;

SBE update

- The 2020 global conference will feature a small number (20-30) of papers from the national/regional level events, and their authors will be given travel support to present these;
- Efforts will be made to increase representation of key industry, research agency and government leaders at the global event and the conference will be structured to maximize the potential for meaningful interaction between the invited technical experts and the non-specialist invitees;

SBE update

Management of the 2019-20 cycle will evolve as follows:

- The current Series Coordinator (N. Larsson) will focus on strategic and budget issues;
- L. Bragança will take the lead role in representing the Partnership at national/regional events;
- Chrisna du Plessis will take the lead in scientific aspects;
- François Baillon will lead the process of structuring the Global 2020 event.

The Global Alliance for Building and Construction





Global Alliance for Buildings and Construction







The Need for Actions to address Climate Change



Buildings were recognized and identified as one of the key sectors in the lead up to COP21, based on the mitigation potential and realisation that 2 degree scenario is not achievable without reducing emissions from buildings and construction



Actions are being taken by Countries, Cities, Private Sector and NGOs

•More than 90 countries identified Building-related activities in their Intended Nationally Determined Contributions (INDCs) in the lead-up to COP-21

•According to ICLEI, more than 500 cities have committed to reducing emissions from construction supply chains and/or climate neutrality, and more than 300 cities have committed to policy actions such as building energy efficiency regulation, rating and disclosure

•More than 200 private sector partners have committed to reducing energy use in the buildings and facilities they own and/or operate, and increasing use of building integrated renewable energy

Stakeholders



- More than 70 pre-COP private sector partners are committed to increasing their investment in low energy and low carbon programs
- Over 100 financial institutions are committed to increase energy efficiency financing; Investors representing over \$3000Bn in assets under management have signed the G20 Energy Efficiency Investor Statement work led by UNEP FI jointly with the PRI and CERES;
- 91 banks from 38 countries have signed the Statement of Financial Institutions for Energy Efficiency, work co-led by EBRD and UNEP FI

Global ABC





- The Global Alliance for Buildings and Construction (Global ABC) was launched to implement COP21 goals within the built environment.
- The Global ABC launch group included 23 countries and 60+ organizations and is intended to increase pace and scale of actions through communication; collaboration and implementation;
- Actions are being identified by countries, sub-national governments, private sector and NGOs, including in NDCs;
- There is a strong focus on finance, data and measurement;
- There are opportunities for Climate Change actions, SDGs and 'The New Urban Agenda' (at Habitat III in Quito, Ecuador in October 2016) to intersect and further engage the building sector





- COP 22 will be held in Marrakech during November 2016;
- The COP22 will include another **Buildings Day** on November 10, where Global ABC's progress to date will be presented and discussed, along with some high-level expert presentations;

Global ABC

next steps

- A key presentation will be the Global Status report, which will provide an overview of the status and trends related to GHG reduction measures in many global regions;
- The agenda will also include the official launch of an international survey of individuals in the built environment sector to help Global ABC to better understand the varied conditions and prospects for GHG reductions in many regions.

An international survey of effective climate change mitigation measures

N. Larsson iiSBE



Survey on climate change mitigation

Our survey will ask individuals around the world to identify what measures they believe are effective in mitigating climate change effects;

A pilot survey was carried out by iiSBE in November 2015;

Now, work is underway to finalize a much larger web-based survey being sponsored by the four SBE partners, CIB, iiSBE, UNEP-SBCI and FIDIC;

The main reason for doing this work is to provide a **bottom-up and more regionally specific view** of possible measures to complement the many top-down policies developed by governments and large non-profit organizations.

The 2016 survey

- The development of the 2016 survey is now underway.
- The draft system has been reviewed in small workshops held at SBE16 conferences in Torino, Hamburg, Malta and Utrecht.
- Colleagues at the University of Malta are developing the webbased version and subsequent analysis;
- After the English-language version is launched, other variants will be developed in French, Spanish, Arabic and Chinese;
- The Survey is now officially adopted by Global ABC for presentation at the COP22 Buildings Day in Marrakech.

Content of 2016 survey

- Name
- E-mail
- More personal info if relevant (optional)
- Regional location (pick list of regions)
- Profession / activity (pick list)
- Length of experience (pick list of 3 categories)
- Potentially effective actions (pick list of 44 items)
- Estimated effectiveness of actions (4 options)
- Applicable region (pick list)
- Relevant key actor types (pick list) x 2
- Applicable urban types (pick list) x 2
- Comments

Survey entry screen

| A. Falucipating organization | | |
|--|----------|---|
| 11. World Business Council for Sustainable Development (WBCSD) | 1 | This survey has been made available to you by the organization shown at left |
| | _ | |
| B. Personal information | | Your language preference - select 1 of 6 |
| Your name | | |
| | | Your profession / activities |
| Your e-mail | | |
| Your regional location | | Your length of experience in the industry |
| | | |
| Comments | | |
| C. Your own suggestions in your own words your region (maximum 3) | s for GH | IG mitigation actions that might be effective in |
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Potential actions 1

General Actions

- 1 Carbon cap-and-trade schemes.
- 2 Carbon taxes with sliding scale based on emissions and redistribution scheme to end-users.
- 3 Property taxes that incentivize efficient high-density urban development.
- 4 Taxation or regulation to limit use of fuels and energy from high-carbon sources.
- 5 Green financing programs to facilitate financing of high-performance buildings.
- 6 Public procurement of low-carbon sources of energy.
- 7 Incentives for local procurement of renewable energy and low-carbon materials.
- 8 Emission tariffs to reduce outsourcing of emissions by producers of materials and products.
- 9 Regulations to reduce fossil fuel and electrical peak power requirements in industrial processes.
- 10 Design competitions and awards with a strong performance focus.
- 11 High-performance demonstrations and pilot projects.
- 12 Education programs focused on built environment sustainability issues in secondary schools and university undergraduate programs.
- 13 Education and other measures to reduce resource waste in construction.
- 14 Education and promotion to reduce consumption levels by Individuals and households.
- 15 Performance education programs for occupants and users of key building types.

16 Live and on-line training programs focused on tools and built environment sustainability issues for designers, builders and real estate professionals.

Potential actions 2

| | Actions applicable to urban areas |
|----|---|
| 17 | Inclusion of solar rights in zoning regulations. |
| 18 | Property taxes or regulations that discourage or cap excessive dwelling unit areas. |
| 19 | Property taxes or regulations that encourage full-time occupancy of urban housing. |
| 20 | Regulations to ensure that vacant urban land will be developed for urban agriculture, green areas with intensive tree planting or with new buildings conforming to high-performance regulations. |
| 21 | Performance requirements in small urban zones for energy, GHG emissions, water, use of on-site renewables etc. |
| 22 | Planning priority within small urban zones for local public transportation systems over private vehicular traffic. |
| 23 | Adoption of synergy zones as modular elements in new urban development; defined as small urban areas that have transit hubs, are pedestrian-oriented, contain medium-density and mixed-use buildings and make use of building system synergies. |
| 24 | Selective dismantling of existing buildings that do not meet minimum green performance standards and where high-performance retrofits are not technically feasible. |
| 25 | Dedicated pedestrian sidewalks and walkways in urban areas. |
| 26 | Dedicated bicycle lanes, with bicycle parking facilities close to public transport stops and key community facilities, to reduce use of motorized vehicles. |

Potential actions 3a

| | Actions applicable to buildings and construction |
|----|--|
| 27 | Building regulations that include performance requirements for energy, emissions, water, and indoor environmental quality. |
| 28 | Inclusion in building regulations of provisions to minimize use of materials and components that are difficult to reuse or recycle, in order to maximize durability of the building envelope and structure, and to facilitate adaptability of the building to new functions. |
| 29 | Adoption of passive solar design principles, including appropriate orientation, window size/location, solar shades, and use of thermal mass. |
| 30 | In areas with temperate summer conditions, building regulations to miminize unnecessary mechanical cooling. |
| 31 | Requirements for green roofs and other building-related measures to capture rainwater, to control storm water flows and to reduce urban heat island effect. |
| 32 | Use of whole-building high performance design guidelines adapted to location and including issues covering Site regeneration and development, Energy and resource consumption, Environmental loadings, IEQ, Service quality, Social, cultural and perceptual aspects, Cost and economic aspects. |
| 33 | Use of Integrated Design Process (IDP) guidelines, adapted to location and building types, to support high-performance design. |
| 34 | Grey-water storage and distribution systems in multi-unit housing projects for irrigation and toilets. |
| 35 | Regulations to ensure use of water-efficient equipment and fixtures. |

Potential actions 3b

| | Actions applicable to buildings and construction |
|----|---|
| 36 | Provision of reliable public potable water and electrical supply to buildings. |
| 37 | Measures to support the use of building-integrated photovoltaics (BIPV). |
| 38 | Use of power quality management systems and protocols |
| 39 | Energy storage systems, including DC and other forms, suitable for use in buildings and small urban zones; |
| 40 | Adoption of DC low-voltage power distribution systems in commercial and residential buildings. |
| 41 | Adoption of Environmental Product Declarations (EPD) and Product Environmental Footprints (PEF) for materials and products. |
| 42 | Energy and emission retrofits in public, commercial and residential buildings. |
| 43 | Energy performance contracting including target values for emissions. |
| 44 | Establishment of public and standardized multi-variable performance datasets including data on embodied energy and operational energy and emissions. |
| 45 | Use of compact and affordable multi-variable building performance rating systems adapted to location and cover Site regeneration and development, Energy and resources, Environmental loadings, IEQ, Service quality, Social, cultural and perceptual aspects, Cost and economic aspects. |

Variables used to determine weights

| | Linkage of the Action to mitigation of climate change | | | | |
|-----------------------|---|--|--|--|--|
| 1 | The Action is potentially linked to mitigation of climate change | | | | |
| 2 | The Action is indirectly linked to mitigation of climate change | | | | |
| 3 | The Action is directly linked to mitigation of climate change | | | | |
| | Predicted effectiveness of the Action in the region specified | | | | |
| 1 | The Action is potentially effective in the region specified | | | | |
| 2 | The Action will probably be effective in the region specified | | | | |
| 3 | The Action will definitely be effective in the region specified | | | | |
| | Predicted adoption of the Action in the region specified | | | | |
| | Predicted adoption of the Action in the region specified | | | | |
| 1 | Predicted adoption of the Action in the region specified The Action may be adopted in the region specified | | | | |
| 1 2 | Predicted adoption of the Action in the region specified The Action may be adopted in the region specified The Action will probably be adopted in the region specified | | | | |
| 1 2 3 | Predicted adoption of the Action in the region specified The Action may be adopted in the region specified The Action will probably be adopted in the region specified The Action will definitely be adopted in the region specified | | | | |
| 1 2 3 | Predicted adoption of the Action in the region specified The Action may be adopted in the region specified The Action will probably be adopted in the region specified The Action will definitely be adopted in the region specified Predicted rapidity of benefits of the Action in the region specified | | | | |
| 1 2 3 | Predicted adoption of the Action in the region specified The Action may be adopted in the region specified The Action will probably be adopted in the region specified The Action will definitely be adopted in the region specified Predicted rapidity of benefits of the Action in the region specified The benefits of the Action in the region specified | | | | |
| 1 2 3 1 2 | Predicted adoption of the Action in the region specified The Action may be adopted in the region specified The Action will probably be adopted in the region specified The Action will definitely be adopted in the region specified Predicted rapidity of benefits of the Action in the region specified The benefits of the Action in the region specified may be realized only in the long term The benefits of the Action in the region specified will probably be realized in the mid term | | | | |

D1. First Action selected as an effective climate change mitigation measure

First select one of the three major Action issue areas at right, then select from the list below.

B. Action applicable to urban areas

23. Planning priority within small urban zones for local public transportation systems over private vehicular traffic.

| Linkage of selected action | | Predicted effectiveness of selected action | | |
|----------------------------|---|---|--|--|
| The | Action is indirectly linked to mitigation of nate change | The Action will probably be effective in the location specified | | |
| Pre | dicted uptake of selected action | Realization of benefits of selected action | | |
| The | Action may be adopted in the location cified | The benefits of the Action in the location specified will definitely be realized quickly | | |
| Rel | evant key actor type | Applicable Region development status | | |
| 8. E | Educators / Academics | 3. Developed countries or regions | | |
| Арр | olicable urban type | Applicable Region climate type | | |
| 3. S | mall and mid-size cities | moist mid-latitude, warm winter | | |
| | | Applicable Region location | | |
| | | 29. Western Europe | | |
| Con | nments | | | |

In our region the need to switch to more local public transport is crucial because of the increasing popularity of private vehicles.

Your suggestions for up to 3 local or regional key people who may find the results of this surevy to be relevant

| Name | E-mail |
|--------------|-----------------------------|
| Emilio Mitre | emilio@somewhereinspain.com |
| Oona Morrow | oonatomorrow@gmail.com |
| | |
| | |

Survey response example



Thank you

Nils Larsson

larsson@iisbe.org