

The 2013 UNEP-SBCI Fall Symposium on Sustainable Buildings was held in Paris at the UNESCO Conference Center. The Symposium, ***Global Action towards Resource Efficiency and Climate Mitigation in the Building Sector***, brought together about 130 participants over two days, including local government representatives, NGOs, research institutions, private sector representatives, and various key stakeholders from the building sector. The symposium was supported by a Paris-based UNEP-SBCI partner, the Global Buildings Performance Network, and included a forward-looking dialogue contributing to a relevant global vision for the sector.

The symposium presentations are available online:
http://www.unep.org/SBCI/resources/AGM_Symposium.asp

Summary and Key Outcomes

Several key themes emerged from the UNEP-SBCI's 2013 Symposium. These included:

- 1. Greater Focus on Resource Efficiency:** There is a need for a greater focus on Resource Efficiency, in addition to the Energy Efficiency and Climate Mitigation potential in the building sector. Guided by a life-cycle approach, efforts to establish a Resource Efficient building sector must extend throughout the supply chain and focus on water, waste and materials, as well as energy and carbon, to effectively reduce overall environmental impact.
- 2. Data and Information:** Significant challenges remain to find relevant and quality data to support metrics and indicators. Guidelines and methods for collection of sector-specific data must be developed. There is also a need throughout the sector for practical LCA methodology and guidelines which can support public and private sector actions and policies, and lead to more holistic approaches in the design and construction of buildings.
- 3. Buildings and Cities:** Cities must be recognized as key actors in the establishment of a resource efficient building sector, and cities themselves must become resource efficient in their planning and operation and there must be a higher level of ambition when it comes to integrating private sector action in developing resource efficient cities. Cities must make a business case for resource efficiency but must also take risks to foster needed innovation.
- 4. The time is now to realize the sector's potential, and to establish partnerships to deliver climate targets and SCP objectives:** The 2015 Climate Change Conference in Paris, at which the successor agreement to the Kyoto Protocol is expected to be adopted, represents a significant opportunity (and a short window) to elevate the building sector in climate negotiations. The sector continues to have the greatest potential to help realize climate targets, but it will require collective action in a traditionally fragmented sector. Similarly, the Sustainable Buildings and Construction programme under the 10 Year Framework of Programmes on SCP adopted at Rio+20 is a significant prospect to mobilize sector stakeholders and national governments to create more sustainable and resource efficient consumption and production patterns in the building sector and saving critical natural resources. Partnerships, including the private sector, national governments, local authorities, NGOs, intergovernmental agencies and research institutions are critical to realizing a vision for the building sector to address global challenges.

Session Summaries

Session 1: Creating a Resource Efficient Building Sector

Presenters included:

Curt Garrigan, UNEP-SBCI - An Overview of UNEP's Building Sector Activities

Llorenc Mila I Canals, UNEP-Life Cycle Initiative - Incorporating Life Cycle Approach in the Building Sector,

Josefina Lindblom, European Commission - Sustainable Buildings - Ongoing Work in the European Commission,

State of Play Reporting (SoP)

Ana Cunha Cribellier – SoP France- CSTB

Stephane Pouffary, ENERGIES 2050 – SoP Africa Sub-Saharan Countries

César Ulises Treviño, Mexico Green Building Council – SoP Latin America

Each speaker presented their research and findings on the state of sustainable building in their respective regions.

- Speakers emphasized the need for data, tools, methods, and metrics to improve building sector energy efficiency
- Barriers to green buildings include: variable data issues, consensus definition of green buildings, lack of consumer information, fragmentation of the market

On LCA:

- Life Cycle analysis creates opportunities, it helps identify key drivers in the overall production chain, and thus to identify the best entry point to lower the environmental impact of production
- Usually there are more opportunities at the sourcing stage, and a resource intensive sector such as buildings/construction can realize significant benefits from LCA

On the work of the European Union:

- Objectives of the EU initiative is to look beyond energy efficiency more broadly at the environmental aspects of sustainability
- It aims to reduce environmental impact by increasing Resource Efficiency, improve knowledge, raise awareness, and overcome fragmentation of the building sector

State of Play reporting:

On SoP Latin America (LAC)

- The State of Play reporting in Latin America is ongoing; The report is important since it is fostering a common language among the countries and stakeholders participating; it identifies barriers and opportunity in the buildings sector including in social housing
- In LAC, there is a lack of trust about sustainable buildings and the message is not being delivered very clearly; there is a limited awareness about the benefits of SB
- There is a need for stronger mandate and incentives to shift toward greater resource efficiency in the building sector in LAC; the region has significant potential due to growth and need for construction

On SoP Sub-Sahara Africa

- The report aims at presenting the “state of the art” of the sustainable buildings in this region. It aims to present the best practices, and provide some recommendations, while identifying gaps and barriers to resource efficiency in the building sector
- The report identifies the need for common approach to gather inter-operable data, which would benefit the region; it also identifies building sector specificities in the region to better target the recommendations

- In this region, energy efficiency in the building sector does not only relate to GHG but encompasses social issues, including health care
- The report also focuses on social housing and on access to financing schemes

On SoP France

- The building sector in France consumes 43% of energy, 16% of water; and it is responsible for 25% GHG emission and 40% waste production
- Target of the Grenelle de l'Environnement: Reduce GHG emission (by a factor of 4 by 2050); increase use of renewable energy; and improve building energy consumption (reducing by 38% by 2020)
- The report looks at the impact of the Grenelle (2 laws passed in 2009 and 2010) in order to identify the next steps toward greater building efficiency

Session 2: Greening the Building Sector

The session was moderated by **Elisa Tonda**, Head of Business and Industry Unit, UNEP
Noel Morrin, SKANSKA - UNEP-SBCI Task Force on Supply Chain – Key Findings and Lessons
Helen Goodland, Brantwood Consulting - Developing Metrics for Materials
Soizick de Tilly, OECD - Sustainable Use of Construction Materials

On the Building Sector Supply Chain Task Force

- The building sector supply chain is a very complex network, and reaching all stakeholder (suppliers, contractors, designers) is a significant challenge
- Looking at the supply chain requires macro level analysis and accounting for global trends, but the sector supply can be very local or very global depending upon individual projects and stakeholders
- There remains a challenge to engage with SMEs, which comprise a large percentage of the supply chain, and to gather necessary information and case studies to define and illustrate the issues effectively in the report of UNEP-SBCI's Supply Chain Task Force (May 2014)
- Report will identify key opportunities and barriers, and identify best practices and case studies to highlight policy options, and will include recommendations for future UNEP-SBCI activities

On the UNEP-SBCI Material Committee work

- The Materials Technical Advisory Committee has engaged the Interuniversity Research Centre for the Life Cycle of products, Processes and Services (CIRAIG) to review existing metrics for materials to support the Sustainable Buildings Protocol, a framework for reporting environmental impact of buildings
- Initial Goal: To develop globally applicable measurement and reporting metrics, protocols and templates that indicates the sustainability of building materials for inclusion in UNEP-SBCI Sustainable Building Index
- Main barrier: Lack of generic inventory data for many regions of the world, creating challenge for single or common metrics for materials
- Recommendations: There is a need to create globally consistent guidelines for the development of country-specific generic data and a method to measure and report primary energy and GHG emissions of building materials using this data; Continuous collection of data is critical to move toward common metrics

On the OECD initiative

- The objectives is to provide member countries with guidance to optimize use of materials in the

building sector

- The work is at the initial stages and there are opportunities to collaborate
- There is a need for practical LCA methodology and guidelines
- Need to fill the gap between environmental assessment modeling and data availability/quality
- It is essential to ensure that different stakeholders, associated with respective responsibilities, are consulted in the process

Session 3: 10 Year Framework of Programmes- A Programme on Sustainable Buildings and Construction (SBC)

The session was moderated by **Arab Hoballah**, Chief, Sustainable and Consumption Production, UNEP
The speakers included:

Adriana Zacarias, 10YFP Secretariat - Introduction to 10YFP

Sylvain Chevassus, Ministry for Environment, Sustainable Development and Energy, France

James Drinkwater, World Green Building Council (WGBC)

Benjamin Gill, BioRegional

Harri Hakaste, Ministry of the Environment, Finland

Natacha Zuinen, Public Service of Wallonia, Belgium

- Adriana Zacarias presented the 10YFP and its objectives. The 10YFP is a global, multi-stakeholder, intergovernmental framework for action, and a platform to scale up action on Sustainable Consumption and Production. The objective is to assist each region in developing national and/or regional SCP strategies and assisting them in identifying priorities.
- The SBC programme will serve as an umbrella, to identify where gaps are in national and regional policies and to develop building and construction sector policies/activities to fill these gaps
- Collaboration should be a key component: NGOs, academia, governments, ministry of economics, environment, housing, health, taxes and planning policy, and energy agencies and regulators should be involved in a SBC programme
- SBC should be contextualized and adapted to cultural issues – there is not a one-size fits all solution
- Pivotal role of education: educating industry (common education platforms), engaging citizens and linking to social and environmental needs (e.g. global Green Schools movement)
- Significant opportunities for countries in contributing to the 10YFP; Belgium, France and Finland are already engaged in the 10YFP process. France has an important political mandate regarding Sustainable Buildings, which enables and supports concrete actions and programmes. Finland led the Marrakech Task Force on Sustainable Buildings and Construction and remains committed to supporting SB policies and continuing work with UNEP through 10YFP.
- Existing networks, such as World Green Building Council, can be excellent resources to support development and implementation of the programme and provide existing tools and policy guidance to stakeholders
- UNEP should ensure inter-linkages between the different programmes, but also between city planning, civil society organizations, and other stakeholders that are encouraging sustainable lifestyles. This also avoids duplication, and will assist with identification of hotspot for actions.
- There is an emphasis on the need to develop the business case to support SCP

Session 4: Resource Efficient Cities- Integrating Buildings and Cities

The session was moderated by **Arab Hoballah**, Chief, Sustainable and Consumption Production, UNEP

Soraya Smaoun, UNEP - An overview: UNEP-Global Initiative for Resource Efficient Cities

Javier Corcuera, Chairman of Environmental Protection Agency (ARPA) of the Government of the City of Buenos Aires, Representative of C40 Cities

Yann Francoise, Head of Climate and Energy Strategies, City of Paris

Matthew Lynch, Director, Urban Infrastructure Initiative, World Business Council for Sustainable

Development

Kirstin Miller, Ecocity Builders

Costis Toregas, Eye on Earth and its Community Sustainability and Resilience Initiative

- Speakers emphasized the need to have holistic and integrated approach to resource efficiency at the city level.
- Sustainable transport and mobility was mentioned as a key entry point with Yann Francoise (Paris) providing the example of shared transport through the Velib and Autolib. An important point in the Paris experience is the need for cities to take a risk and invest on innovative ideas.
- One of the key debates in this session was the role and business and the meaning of the “business case” for resource efficiency at city level.
- Kirstin Miller (Ecocity Builders) argued that civil society needs to set high standards for business in terms of resource efficiency.
- Matthew Lynch (World Business Council) agreed saying that industry needs a clear set of expectations so that these expectations from society can be incorporated into current business practices.
- Javier Corcuera (Buenos Aires) is reluctant about focusing on the “business case” and emphasized instead on the need to incorporate the opinions of the youth, implying the businesses will follow what the consumers want.
- Costis Toregas (Eye on Earth) said that we should not expect industry to do things voluntarily but rather understand that business will do only what is good for business. In the end, there was a consensus that there is a need to raise the level of ambition when it comes to integrating private sector action in developing resource efficient cities.
- The issues are the same worldwide, what matters is the way solutions are designed locally, to provide contextualized solutions
- Collective action, with strong involvement from citizens, is a driver of successful policy implementation
- Time of voluntary action is over, there is a need for more regulation, or mandatory standards

Session 5: The Challenges of Implementing Energy Efficiency in the Building Sector GBPN)

Jens Laustsen – Technical Director GBPN

Marc La France – International Energy Agency Codes Framework

Roland Hunziker – World Business Council for Sustainable Development,

- There is a common challenge to gather data, which is used to support policy-making, and the impact of policies (need data on impact, actual consumption, and costs); GBPN has developed a report on the need for data: *Robust Building Data: A Driver for Policy Development*
- GBPN mission is to take today’s state of art and make it standard in 10 years’ time
- Policy Recommendations (IEA)
 - Need to promote integrated policy packages
 - Deep renovation is critical in mature markets
 - Development and enforcement of building codes is most important in developing markets
- Progress is needed on Key Technologies to achieve greater EE
 - Building Envelope
 - Heating and cooling
 - Water heating
 - Lighting
- Whole Building Performance Specifications are not enough; there is a need to look at performance of all components (e.g. windows, walls, roofs, air sealing...). Performance criteria must support policies/codes
- Tracking progress – next steps:
 - Much more data is needed

- More specific performance criteria is needed
- Need for a new buildings partnership to improve data, modelling, and enable deployment
- EBB 2.0. Project objective (WBCSD) - Unlock financially viable energy efficiency investments that today are not being realized because of mostly non-technical (i.e. financial, regulatory, organizational) barriers.
- WBCSD is developing Market-oriented Toolkits to enable more complete and comprehensive collaboration among motivated Decision Makers and their principal stakeholders

Session 6: Energy Efficiency- Developing Policies for Better Performance

The session was **moderated** by **Mark Radka**, Chief, Energy Branch, UNEP-DTIE

Frank Hovorka, Caisse des Dépôts Group, and Chair UNEP- Finance initiative (UNEP-FI) Property Working Group: Financing Energy Efficiency

Dr. Silke Krawietz, LUISS University Business School - Technologies for Energy Efficiency- Building Integration of PV

Vincent Kitio, UN-HABITAT - Promoting Energy Efficiency in Buildings in East Africa

Curt Garrigan, UNEP-SBCI - Development of Nationally Appropriate Mitigation Actions in the Building Sector in Asia

On UNEP- Finance initiative (UNEP-FI) Property Working Group: Financing Energy Efficiency

- UNEP FI aims to integrate sustainability principles into financial decision-making. Sustainability is not well understood throughout the financial system, so UNEP FI tries to develop and introduce a responsible property investment principles and criteria
- There is a need for information to better assess risks and performance. PPP can only be a solution if it is informed by clear data and information
- Need to translate technical language into a language that would be understood by financial investors. The “marketing” of energy efficiency in the building sector should be refined to support financial decision-making.

On Technologies for Energy Efficiency- Building Integration of PV (BIPV)

- Building Integration of Photovoltaic (BIPV) is one of the technologies that can foster and integrate building Energy Efficiency and Renewable Energy
- The interest of the market for PV will increase through: Increase of efficiency (cells & modules), Reduction of production costs, Development of new designs of PV / BIPV, Increase of BIPV applications
- Targets for the future: Effective and true policy support for further market growth and price reduction, Sustainable and well designed support mechanisms acknowledging BIPV potential, Enlarge the cooperation with construction sector and architects to develop more suitable and competitive PV solutions for building integration

On Promoting Energy Efficiency in Buildings in East Africa

- Energy used in buildings in Africa is estimated at 56% of the total national electricity consumption. Big cities consume more than 75 % of all electricity generated (UN-Habitat)
- Energy demand increases annually by 8%. There is therefore, the need for energy efficiency and renewable energy. (UN-Habitat)
- About 80% of the buildings expected to exist in Sub Saharan Africa in 2050 have not been built. (UN-Habitat)
- The Promoting Energy Efficiency in Buildings in East Africa project is designed to address the energy crisis in the region through the promotion of energy conscious building designs and energy demand management. It aims to mainstream Energy Efficiency Measures into Housing

policies, Building Codes, Housing finance and building practices in East Africa. Main components:

1. Baseline Data, Energy Audits and Benchmarking on Energy Efficiency (EE)in the Building Sector.
2. Adoption of Energy/Resource Efficient Building Codes in the region.
3. Awareness Raising; Capacity Building, Guidelines and training tools.
4. Appropriate Financial Framework and Mechanism for the Promotion of energy efficient Measures in Buildings.
5. Integration of EE measures in **all new government housing projects**, donor funded housing projects and encourage such practices in the **private sector**

On the development of Nationally Appropriate Mitigation Actions in the Building Sector in Asia

- Nationally Appropriate Mitigation Actions (NAMAs) in the building sector offer many opportunities, as the sector has significant environmental, social, and economic impact
- UNEP is working with Indonesia, The Philippines, Thailand and Vietnam to develop building sector NAMAs and embed sectoral policies within national climate strategies
- Multi stakeholders dialogue and data collection will help identifying gaps and needs in the building sector

Sustainable Buildings Conference Series- 2013 Summary and Preview of SB14- Barcelona

Nils Larsson, International Initiative for a Sustainable Built Environment (iiSBE)

The World SB14 conference will be held in Barcelona, from 28 to 30 October 2014. The theme of the conference is *"Sustainable Building Results...Are We Moving as Quickly as We should? It's up to us!"*.

The goal of the World SB14 Barcelona Conference is to encourage the uptake of adequate answers to the challenges, social and environmental, which the building sector faces. The main aim of the World SB14 Conference is to propose and promote a Roadmap, to kick start a process that allows the building sector to define, as soon as possible, the local action plans that will give an effective answer to the global challenges, social and environmental, that it faces. For more information [click here](#).

Session 7: A Global Vision for Sustainable Buildings (Panel Discussion)

Moderated by **Arab Hoballah**, Chief, Sustainable Consumption and Production-UNEP

Peter Börkey, Environment Directorate, OECD

Teresa Coady, Chief Operating Officer, Kasian Architects, Vancouver

Peter Graham, Executive Director, GBPN

Bruno Mesureur, Director of Marketing & International Development CSTB (Centre Scientifique et Technique du Bâtiment)

Soraya Smaoun, Acting Head, UNEP-Built Environment Unit

Vision for sustainable buildings

- SB should be embedded in efforts Sustainable cities. Market instruments and incentives should be developed for local implementation
- The industry spent the last 20 years worrying about sick buildings; we should worry now, and as much, about sick cities.
- Representatives in the sector need to be more accountable for what we build and develop.
- For sustainable cities, there are 2 ranges of issues to look at: quantifiable issues (clean water, access to transport, carbon emission, food ...) and qualitative issues (health, life style, tourism...)
- When looking at the future, we should not look at buildings as unique and individual units, but as inter-connected buildings in a larger system (cities); this is made possible by technology.
- Need to develop harmonized data base to inform policy makers. This information can help set up pricing models to develop potential approaches, such as application of fees/taxes on specific unsustainable materials. This would provide a strong incentive to switch to more efficient and sustainable

materials

- In the future we have to promote more “win-win” solutions within the sector, engage public and private sector stakeholders, create more PPPs, and develop the business case for investment
- We should target faster, cheaper and better solutions
- There remains a scale issue in achieving sustainable building. There are existing efforts, and solutions, which should be better showcased, and the benefits should be better highlighted to promote greater uptake and greater scale

How to make the sector less fragmented

- Capitalize on the work of existing networks. For example, France used to be very fragmented, and the creation of France Green Building Council greatly contributed to bring various stakeholders together
- There is a communication gap between researcher, contractor, and real estate stakeholders. GBCs are thus critical to fill this gap.
- New means of assessment may be needed to promote a less fragmented sector. We used to focus only on certification, but it's time to think about the added value of SB from an economic standpoint.
- Demonstration is very important to promote innovating solutions. The Sustainable Social Housing Initiative started as a pilot in Bangkok and Sao Paulo, and is now being replicated in India and Bangladesh. We need more replication of such best practices.
- Global platform where examples, research, innovations, etc., are shared can contribute to development of a global language understandable by all
- International Organizations have a critical role to play in advocacy and elevating the role of the building sector

Role of the private sector and what government should do to support the private sector

- The private sector is already doing a lot and the fragmentation is decreasing, but more can be done
- There are huge opportunities for the public sector. There is limited public money available, many projects are PPPs, linking public and private sector to achieve progress and establish good cooperation
- The public sector can establish clear guidance and targets through regulation, setting the “sustainability bar” or threshold; France took this approach with the “Grenelle de l'Environnement”. This set of rules forces the private sector to re-think their business model and helps achieve goals
- Private sector can develop and apply solutions

Key drivers for action

- Subsidies and pricing schemes
- Information
- Regulation
- Context specific solutions
- Market mechanism
- Better packaging/communication of SB issues
- Communicating the strong business case
- Political will

What must be done?

- Access to finance mechanisms to make SB accessible
- Develop/promote Measurable, Reportable, Verifiable (MRV) standards, to facilitate and ensure large funding can be accessed/secured
- Change must occur through development of innovative solutions and sharing of best practices
- It is important to continue to share knowledge and raise awareness

Closing/wrap up

- Sustainable Buildings are the low hanging fruits and we have not yet been able to fully seize the opportunities
- Need for data, tools, networks, metrics, and indicators remains critical to inform policy-making
- Develop the Business case in addition to the environmental case for SB
- Need to better communicate the market benefits of Sustainable and Resource Efficient buildings to overcome the limited awareness
- Risks should be clearly identified to develop solutions to the existing barriers
- Need a practical definition of SB
- We must illustrate the co-benefits of climate mitigation

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