

Proposal for a 10YFP Programme on Sustainable Buildings and Construction (SBC)

Submitted to the 10YFP Secretariat

TITLE OF THE PROGRAMME: *SUSTAINABLE BUILDINGS AND CONSTRUCTION PROGRAMME (SBC)*

Rationale and background

The Sustainable Buildings and Construction Programme (SBC) contributes to the 10-Year Framework of Programmes on Sustainable Consumption and Production (10YFP on SCP). The 10YFP is a global framework of action to enhance international cooperation to accelerate the shift towards SCP. It develops, replicates and scales up SCP and resource efficiency initiatives, at national and regional levels, working to decouple environmental degradation and resource use from economic growth, and thus increases the net contribution of economic activities to poverty eradication and social development.

SBC aims at fulfilling of the 10YFP functions:

- to promote the added value of a sustainable consumption and production approach
- to share information and tools to learn best practices
- to increase cooperation and networking among all stakeholders
- to foster integration of SCP into decision-making at all levels
- to raise awareness and engage civil society, with a particular focus on the education system
- to facilitate access to technical assistance, training, financing, technology and capacity building
- to strengthen and make use of scientific and technological capacities
- to promote the engagement of the private sector to achieve shift towards SCP
- to foster innovation and new ideas, while increasing recognition of traditional knowledge.

Buildings and construction have major impacts on our environment in its resource use (land, materials, energy, water); emissions (GHG, particulates, waste) and on biodiversity. These sectors can also play an important role in improving the environment by cleaning polluted areas and recycling not only its own waste streams but those of other sectors in its own production and consumption. In addition, buildings contribute to human health, safety and comfort. Construction activities provide employment and innovation opportunities for both genders and to the youth. The built environment represents an important share of national wealth. Thus, the SBC programme provides an excellent platform for contributing to sustainable consumption and production together with Sustainable Public Procurement, Consumer Information, Sustainable Tourism and Sustainable Lifestyles and Education programmes in a complementary way.

The overall aim of the programme is to achieve a situation, by 2030, where:

“All stakeholders involved in the planning, commissioning, design, construction, use, management and deconstruction of buildings have a common understanding of sustainable buildings and the knowledge, resources and incentives required to create, maintain and use them; structures that are healthy to live and work in, that responsibly utilise energy, water, land and other key resources, respecting environmental limits, and ultimately have a minimally adverse impact on the natural world, supporting social and economic development.”



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1. Please list the overall objectives of the programme and how success will be measured (adjust table as relevant)

Objective 1 - Foster enabling frameworks to implement SBC policies:

Support an enabling environment for SBC by strengthening the SCP knowledge base and methodologies, engaging the relevant stakeholders and enabling the definition and implementation of supportive policies and regulations.

Measure(s) of success –

- Number of governments adopting and applying policies promoting sustainable building and construction
- Number of relevant stakeholders engaged
- Number of participating countries and organizations engaged
- Number of tools and research activities identified, promoted and shared

Objective 2 - Promote Sustainable Housing, including affordable and social housing:

Mainstream SBC in the housing sector by piloting practical approaches and tools to learn and estimate cost and benefits of different approaches and by promoting and integrating supportive policies at a competitive cost, in coordination with relevant 10YFP programmes.

Measure(s) of success –

- Number of demonstration projects
- Number of tools and methodologies for sustainable housing projects identified and shared
- Number of SBC policies in sustainable housing sector promoted and integrated and adopted

Objective 3 - Enhance Sustainability in the Building Supply Chain

Increase the sustainability, with an initial focus on resource efficiency, of the building and construction sector at national, regional and global level by increasing the availability of tools and knowledge, promoting supportive policies and engaging the relevant stakeholders.

Measure(s) of success –

- Increased resource efficiency (use of energy, water, natural resources (e.g. wood), and waste)
- Reduced material use by construction sector through reductions in CDR waste generated
- Number of policy initiatives mainstreamed or new policies developed
- Identification and adoption of indicators for life cycle approach in the building and construction sector

Objective 4 - Reduce climate impact and strengthen climate resilience of the building and construction sector:

Provide for the mitigation and adaptation of climate impacts in the building and construction sector as well as its climate resilience through strengthening the knowledge base for better informed decision making and promoting related planning and piloting activities.

Measure(s) of success –

- GHG and other pollutants emission reductions from pilot interventions
- Actual or projected reductions in GHG emissions and co-benefits realised over the next 10 years and associated economic impacts
- Number of pilot interventions reducing GHG and other pollutants and strengthening resilience



Objective 5 - Promoting knowledge sharing, outreach and awareness raising:

The objective of this cross cutting work area is on the one hand to increase the awareness about the SBC programme and its focus areas and results and to provide a knowledge sharing platform to exchange lessons and experiences among relevant stakeholders and also the general public. This will be activated e.g. through SBE16-17 and GBC conferences and workshops and seminars organised by educational institutes as well as life-long learning programmes.

2. Please describe how the programme will contribute to meeting the goals / common values of the 10YFP as well as to the three dimensions of sustainable development?

There exists today a good deal of work underway that has begun transforming the building sector towards a more sustainable path. Many UN member states and forward-looking practitioners and corporations are working together to begin addressing this important topic. In preparing this framework stakeholders need to be aware of this existing work and to build on it rather than duplicate it. Further, the SBC programme should coordinate, to the extent possible, with other existing 10YFP programmes and those under development.

While acknowledging the important work that has been accomplished so far, there remains much more to be done. Many existing and new buildings cannot be regarded as sustainable for their impacts are too large and their benefits too few. With a huge global demand for new buildings, especially homes, it is vital that they move towards resource efficiency and sustainability. There is also a demand on refurbishment of the existing stock at the same time. There are plenty of individual examples of good practice but the rate of change is too slow to lead to overall market transformation. Some key guiding principles for the programme are, in no particular order:

- 1) Promote common language and tools on 'sustainable building'.** SBC is more than green or energy efficient buildings. While many policies aim to reduce energy use in buildings, a key component of SCP, they should contribute more broadly to the three pillars of sustainability (environmental, social and economic) including resource efficiency. A key first step is for stakeholders to reach consensus on what is a "sustainable building" which can be achieved through increased dialogue and the development of a "common language" allowing for broader uptake of SBC.
- 2) Adopting a lifecycle approach and resource efficiency in building supply chains.** The challenge is to make lifecycle assessment (LCA) more efficient and effective with effective rules and guidance which will allow for broader uptake, especially in developing nations. Broader adoption of LCA and resource efficiency will shape the planning and design of buildings by enabling the building supply chain to improve its performance through the greater inclusion of renewable resources and energy, and water efficient approaches and by reducing the non-renewable use of natural resources.
- 3) SBC should use scientific and technological knowledge to produce tools that are designed for field actors and lead to cost-effective policies.** Research methodologies exist regarding resource efficiency, resilience to climate change and other challenges. Yet, field actors such as developers, architects, engineers and contractors are looking for user-friendly, affordable and cost-effective approaches. In a context of economic crises



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and lack of public resources in many parts of the world, affordable and cost-effective actions are the best way to spread a SBC approach.

- 4) **SBC depends on sustainable infrastructure.** Buildings should be designed and constructed to respond to available infrastructure and local environmental and socio-economic conditions and strive to drive demand and enable the provision of more sustainable infrastructure and urban services.
- 5) **SBC should strive to be near-zero impact, or even, when relevant, “Resource Positive.”** Buildings should aim to use near-zero energy and water and to produce near zero waste. When this is relevant and taking into account their urban context and other factors, they can even provide more energy than they consume, they should aim to produce more clean water than they use, and aim to utilise more waste than they produce. While technologies exist today to make this happen, from “living machines” that treat wastewater to the use of agricultural waste products in building materials and fuel stocks there remains more to be done in research, pilot applications and enabling policies.
- 6) **SBC should have a “Circular Economy” approach.** The economic case for energy and resource efficient buildings has been made and is increasingly understood. Yet more needs to be done to develop and promote the case for sustainable buildings as part of the circular economy and the transition towards more sustainable buildings and construction will necessitate changes from the way building projects are contracted and financed to how organisations budget and governments incentivize the right kinds of actions at the right times throughout the full life cycle of a building.
- 7) **SBC should begin at home.** To date most ‘green certified building’ has focused on commercial, institutional, and public sector buildings. However, it is estimated that by 2050 more than a billion new homes will be needed to meet the needs of a growing and increasingly urban population. Further, as a majority of our time is spent at home a strong focus on housing will allow greater positive impact and a greater increase in the sustainability of our lifestyles.
- 8) **SBC requires the engaged and knowledgeable active-participation of all stakeholders.** The success of a building’s performance depends on its proper operation. Unfortunately, a number of ‘green-labelled’ buildings suffer from a gap between the designed use and actual performance. Building users and facility managers are one of the most critical components for ensuring the success of a sustainable building. Further, we need to increase stakeholder’s knowledge, access to consumer and market information, training and understanding of the important environmental, social and economic opportunities in the building sector to ensure a building performance focus that avoids “locking in” poor performance.
- 9) **SBC necessitates a climate responsive approach.** Buildings last longer than almost all other types of products and the world around them is expected to undergo great change during their lifetime. They should be designed to help their occupants cope with observed and anticipated climate change impacts (adaptation) and efforts to further reduce their impact must be supported (mitigation).
- 10) **Monitoring, verifying and provide feedback is critical for success.** The sustainability performance of buildings and infrastructure throughout their lifecycle needs to be verified through monitoring and provide feedback to ensure near term and long-term

goals are accomplished. Additional tools, methods and approaches are needed to ensure this can occur during all stages of the building's life.

11) There is a key role for government at all levels to “lead by example.” Through public building inventories such as schools, hospitals, among other public stock as well as financially subsidized programs, e.g. affordable housing should be exemplars of sustainable building and catalytic agents to help develop resource efficient supply chains, technologies, skills and expertise in the construction sector and to educate and inform their occupants about sustainability and further the development of a multi-stakeholder approach.

12) Demonstration of SBC Approaches. Pilot projects and other “hands-on” demonstrations provide encouragement to stakeholders, valuable lessons learned, and help to refine approaches. Demonstration projects should not only focus on the environmental improvements but also identify and consider economic (job creation), financial impacts (costs and savings), and other social aspects (work health and safety). Further, case studies and reports should be encouraged to provide a “warts and all” detailing of lessons learned so that successes can be replicated and obstacles identified and avoided.

3. *What are the main work/focus areas and related activities of the programme?*

In the area of sustainable buildings and construction a great deal of efforts is already underway at a variety of scales, from the international to the neighbourhood level, that the SBC programme will build on these efforts and engage with actors at all levels. As a first step in the programme a review and mapping of all ongoing relevant initiatives, systems and frameworks supporting different aspects of SBC will be undertaken. This exercise will also help identify the gaps that need to be addressed and further refine the activities under the different work streams. This review will also contribute to developing an inventory of available tools, methodologies and information resources. The results of this review would be made available through the SCP clearing house.

The list of activities below is suggestive and not definitive. As the SBC programme identifies additional partner organisations and key stakeholder groups over the coming years it will be able to more fully address the broad ambitions and work to further accomplish the key aims of the programme. Further, the buildings and construction sector is influenced by decisions and actions at multiple scales, from commitments under the international environmental agreements (e.g. UNFCCC and Montreal Protocol) to the national or sub-national level (land rights, worker safety, building standards) to the very local level through code enforcement, zoning or community standards. As the SBC programme works it will need to reflect and respond to this system complexity and strive to effectively engage communities and decision-makers at all levels.

Work/focus areas	Activities*
<u>Work Stream 1:</u> <u>Establish and</u> <u>promote enabling</u> <u>frameworks to</u>	<p>1. Foster and share research, tools, financial and other approaches related to SBC</p> <p>1.1 Identify tools, financial mechanisms, apply LCA and promote monitoring throughout the whole lifecycle of buildings (including construction, usage, maintenance, repair, demolition/reuse) and infrastructure to track and assess progress towards sustainability (e.g.</p>



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<u>implement SBC policies</u>	<p>design criteria, product certification, and verification and reporting methodologies).</p> <p>1.2 Forecast demand for the building and construction sector</p> <p>1.3 Benchmark performance metrics</p> <p>1.4 Evaluate appropriate technologies and approaches to promote sustainability in the built environment</p> <p>2. Maintain and engage in global dialogue to develop and promote common language and tools related to SBC</p> <p>3. Foster enabling frameworks for SBC</p>
	<p>3.1 Identify, promote and foster operationalization of enabling frameworks to implement policies and regulations on SBC</p> <p>3.2 Promote regulations that ensure operating performance data is accessible to relevant stakeholders</p> <p>3.3 Increase synergies amongst and engagement of relevant stakeholders to foster enabling SCP frameworks and within the context of the other SCP programmes</p>
<u>Work Stream 2 : Support and Promote Sustainable Housing</u>	<p>1. Piloting sustainable housing approaches in the affordable and social housing markets</p> <p>1.1 Identify and share toolkits for sustainable housing projects</p> <p>1.2 Establish practical demonstration projects of SBC in retrofit and new residential buildings in target regions with demonstration projects becoming regional 'Living Labs' through the incorporation of monitoring, training and dissemination and ensuring applicability to all socio-economic levels.</p> <p>2. Promote SBC policies for the low income housing sector</p> <p>2.1 Work to promote the upscale and broader adoption of SBC policies throughout the low-income housing sector.</p> <p>2.2 Foster integration of policies for the delivery of sustainable housing into decision making at all levels considering combination of bottom up with top down strategies</p> <p>3. Support synergies with relevant programmes</p> <p>3.1 Cooperation with relevant 10YFP programmes such as the Sustainable Public Procurement Program</p>
<u>Work Stream 3: Enhance Sustainability in Building Supply Chain</u>	<p>1. Identify and share core analytical tools, conceptual work and improved knowledge base for supporting decision making towards resource efficiency in building supply chain</p> <p>1.1 Identify hotspots of environmental impact and areas not being tackled sufficiently and promote responsible management and/or alternatives such as re-use of building waste</p> <p>1.2 Promote lifecycle assessment and tools for energy, carbon, water and materials (including waste)</p> <p>1.3 Facilitate and share data on impacts of resource use</p> <p>1.4 Use of local and regional materials and resources</p> <p>2. Promote policies to integrate resource efficiency in building supply chain</p> <p>2.1 Identify and promote government policies and toolkits to aid resource efficiency in SBC</p> <p>2.2 Foster economic incentives and market strategies to promote resource efficiency in buildings</p> <p>3. Engage upstream stakeholders and supply chains towards resource efficiency</p>



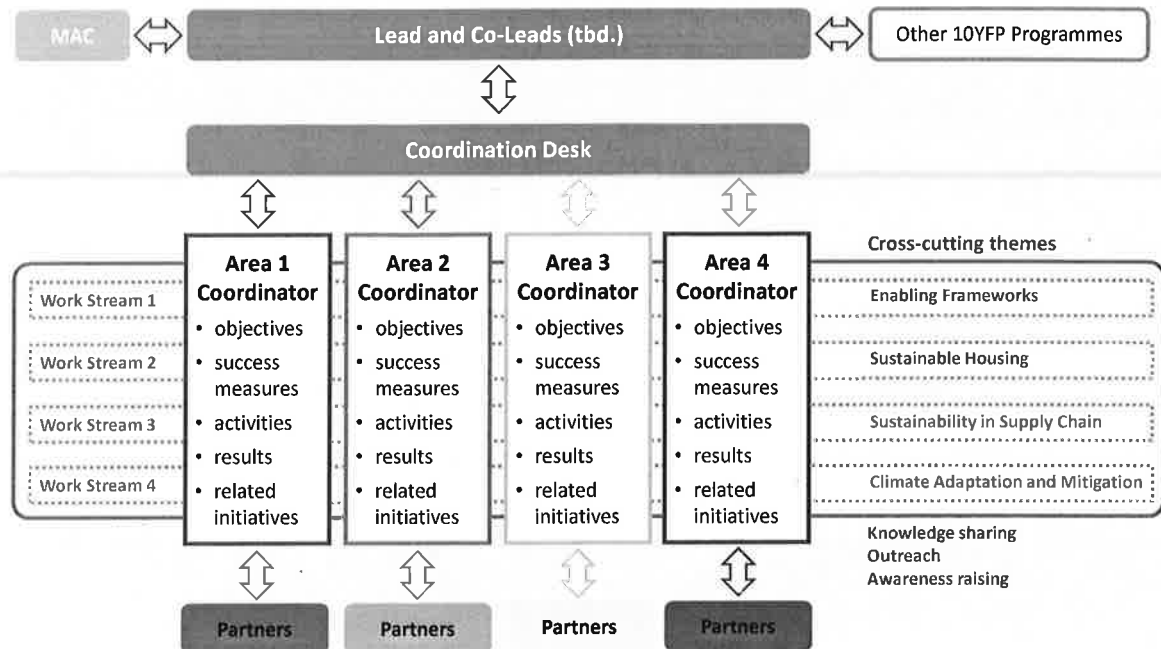
<p><u>Work</u> <u>Stream 4: Reduce climate impact and strengthen climate resilience of the building and construction sector</u></p>	<ol style="list-style-type: none"> 1. Identify and share core analytical tools, conceptual work and improved knowledge base for supporting decision making towards a more climate resilient and low emission building and construction sector 1.1 Identify and prioritize key issues and knowledge gaps of climate impacts on/of buildings and construction sector 1.2 Provide access to relevant data (i.e. relevant and up to date climatic data) and keep track of relevant research and development in the field of sustainable buildings practices (i.e. database of specific on-the-ground initiatives) 1.3 Identify and facilitate the use of globally harmonized tools and methodologies for measuring and reporting building sector emissions 1.4 Provide a clear framework of how the above-mentioned harmonized tools and methodologies could contribute to better city, regional, and national planning. 2. Promote resilient and low emission SBC planning and piloting 2.1 Support planning and design processes enabling buildings and construction to be appropriate for and adapted to the local climate conditions and resilient to anticipated climate change and extreme weather events. 2.2 Promote pilot actions transferring and implementing low cost, climate resilient and low emission building technologies including at district level
<p><u>Cross-cutting theme: Knowledge sharing, outreach and awareness raising</u></p>	<p>Promote awareness raising efforts and promote understanding of sustainable buildings and construction across the stakeholders and general public,</p> <p>Support organization of international conferences and platforms for disseminating activities and results</p> <p>Support building of peer groups based on region specific conditions to share lessons and experiences with building codes, solutions, geographically bound infrastructure</p> <p>Promote interdisciplinary exchanges between institutions of higher education for architecture, urban planning, engineering etc. informing the development and application of SBC policies and foster integration of sustainability consideration in relevant curricula supported by concrete case studies</p>

4. Please explain how the programme responds to regional and national (sub-national and local) needs, priorities and circumstances in developed and/or developing countries.

The Building and Construction sectors are by nature local and while they can be driven by international and national policy and best practices buildings must also incorporate and respond to local cultures and conditions. Our interaction with the built environment always occurs at the local level and as such the SBC programme is designed to be flexible and responsive to the specific circumstances of countries, climatic conditions, building traditions and access to resources of the communities in which the programme is implemented. Particular attention and effort was made during the planning and design of the overall programme structure to ensure the programme remains responsive to the geographical and cultural needs of the participants. This is outlined in the following figure which illustrates how well-connected the work areas are tied to the coordination desk but also to the local partners on the ground.



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The organisation of the multistakeholder committee and the partners was made to ensure the inclusion of local stakeholders. Two recommended members have green building and sustainability expert and practitioner networks covering over 150 countries and provide the opportunity for participation and promotion of SBC concepts at numerous conferences around the world. Further, other member organisations consist of some of the largest multinational corporations with broad global operations. Ensuring both local and global participants in the MAC allows for simultaneous top-down and bottom up implementation strategies. The proposed members, through their networks and activities, cover all regions globally. Further, to ensure stronger regional representation the programme is leaving open several seats on the MAC to address growing interest and broader coverage.

5. How does this programme build cooperation and synergies with other existing programmes of the 10YFP?

The broad range of stakeholders of the SBC programme provides it with an opportunity to link with a number of other thematic areas falling under the 10YFP initial list of programmes adopted at Rio +20 and to create significant programmatic synergies. Some potential joint initiatives and synergies could include:

Sustainable lifestyles and education programme:

- Learning from and applying traditional building methods and approaches
- Public education and awareness raising on efficient use of buildings i.e. appliances
- Promote interdisciplinary exchanges between institutions of higher education for architecture, urban planning, engineering etc. informing the development and application of SBC policies
- Foster integration of sustainability consideration into relevant curricula supported by concrete case studies

Consumer information programme:

- Consideration of role of building 'consumer', behavioural change, cultural elements

Sustainable public procurement programme:

- Consider SPP in social housing projects and SBC by the public sector

Sustainable Tourism:

- Foster synergies between building and refurbishing tourism infrastructure

6. *How will this programme contribute to sustainable, inclusive and equitable global growth, poverty eradication, employment opportunities and shared prosperity?*

The SCP programme aims at having a common understanding of sustainable buildings among relevant stakeholders and the knowledge, resources and incentives required to create, maintain and use them; structures that are healthy to live and work in, that sustainably utilise energy, water, land and other key resources, respecting environmental limits, and ultimately have a minimally adverse impact on the natural world, supporting social and economic development. The SBC programme will thus contribute to the promotion of the environmental, social and economic agendas thereby addressing the 10YFP goals related to sustainable, inclusive and equitable growth, poverty eradication and employment opportunities. The SCP programme has the potential to contribute to improved life quality by addressing worker safety, indoor and outdoor health, affordability, buildings adapted to vulnerable groups, etc.

The Enabling frameworks work stream provides means to implement SBC policies supporting inclusive and equitable growth and shared prosperity. The Sustainable housing work stream strengthens the spreading of good practices on affordable and low income housing, and retrofitting of the existing stock, thus providing local employment opportunities and alleviating the living conditions including those in poverty, resulting in better quality of life. Sustainability in the supply chain work stream fosters economic incentives and market strategies towards new economic opportunities for all. The climate impact work stream provides access to relevant data and good on-the-ground initiatives for shared prosperity. The cross-cutting knowledge sharing and awareness raising theme through active and inclusive disseminating activities creates demand for value adding offerings in the areas described before.

7. *Please describe how the programme activities are based (or will be based) on a solid scientific and policy knowledge base?*

Planetary challenges including climate change, changing land-use, demographic change, access to water and resource depletion are greatly impacted, positively and negatively, by the built environment. Buildings place significant demands on local infrastructure and utilities and with the highest rates of growth in Africa, Asia, Middle East and Latin America, they raise complex social, economic and environmental challenges. Globally, the sector faces competing demands in rates of population change with growth in some countries and flat or declining populations elsewhere. These changing demographics impact demand for households and growing urban population necessitates more dense development and "shrinking" or "deindustrialising cities" facing their own unique challenges. Complexity also exists within a single building as building systems work to meet demands of occupants for lighting, heating and cooling, and appliances. The SBC programme will contribute in science-policy interface by utilizing the existing



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assessments and the up-coming work of the International Resource Panel. Passive heating and cooling technologies, able to reduce drastically end-use energy consumption in the warm-temperate climate zones of the world where the majority of growing population lives, are well known but have been little and randomly applied so far due to lack of information to the public and training of workforces as well as persistence of a business-as-usual approach. The SBC programme can foster actions by government bodies, consumers' organisations, NGOs, high education institutions, professional associations, and industries to overcome those barriers.

Buildings – in cities and elsewhere – represent a key area for focusing climate change mitigation. They account for approximately 40% of global energy consumption, which in turn generates around 30% of all energy-related GHG emissions. Current trends in population growth and urbanisation will lead to a significant need for new buildings in a very short period, with an additional two billion urban inhabitants expected by 2030. Such growth will bring with it a rise in energy consumption and associated GHG emissions – and not just from residential buildings but also the commercial and industrial developments that accompany them.

Any estimates of the general impacts of buildings are bound to be approximate given the lack of robust data and the fact that in many countries much building is 'informal'. Nonetheless, we can be sure that the impact of buildings on natural resources is great. In addition to impacts on the environment, the building and construction sector is also a strong economic driver.

Work in the building and construction sector on resource efficiency and sustainable consumption and production must keep in mind the broader inter-linkages between this sector and the natural systems and other sectors which play key roles in the overall performance of cities, regions, and national economies. As entry points, voluntary building certifications e.g. based on the indicators and assessment methodology set by the suite of standards developed within ISO TC59/SC17 on sustainability in construction works, among others, can play a key role in pilot testing technologies, tools and policies before broader regulatory adoption at city or national level. Developments in the building sector can also shape national industry by driving the creation of new products and services. Buildings also have an important link to broader city services and can serve to stimulate new ways of approaching urban services – from the treatment of waste, water, transport and green space connectivity and more. A sustainable building might provide more energy than is used on site by contributing to district energy systems. Buildings integrated within a district can provide for additional capacity for the treatment of storm and waste water, effectively making more clean water available for the city. Through integrated action, buildings can improve the social, environmental and economic performance of a city, region and nation and this should be a key consideration in the development of the sustainable building and construction programme.

8. Please describe how the programme uses or relies on a life cycle and/or other relevant approaches (traditional knowledge based, resource efficiency, cradle to cradle, 3R, etc.)

The lifecycle of buildings is very complex with a large number of actors involved at all stages of the building process. A building's performance and resource efficiency is impacted by decisions at all stages: from how a project is planned and designed, financed, constructed; how it is used and operated; and disposed, reused or recycled at the end of its life. Growth in resource demand and material use in the sector far exceeded population growth in the 20th century. According to McKinsey and Company, building commodity prices increased an estimated 147% since 2000, and are only expected to continue to rise if measures aren't taken to address resource scarcity.

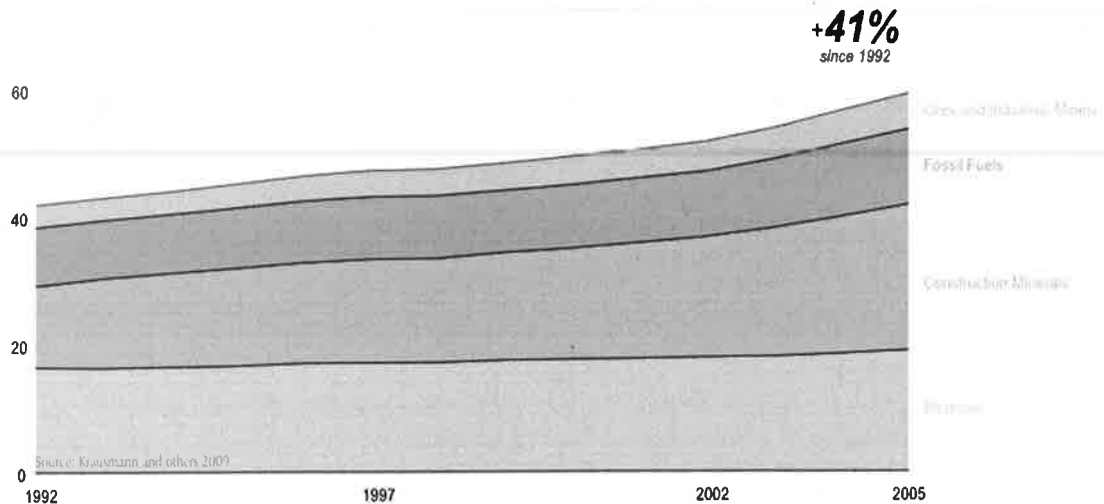


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Thousand Million
Tonnes

Global Materials Extraction



The global use of natural resource materials increased by over 40% between 1992 and 2005, from about 42 to nearly 60 thousand million tonnes. On a per capita basis, the increase was 27%. Among the four major material groups (biomass, fossil fuels, ores and industrial minerals, and construction minerals) there has been a major increase in extraction of construction minerals of almost 80%, followed by ores and industrial minerals (close to 60%). This growth is strongly linked to increasing population numbers and the need for shelter, food and an improved standard of living (UNEP 2011).

While progress is being made in transitioning the building and construction sector to a more sustainable pathway a number of barriers remain. Overcoming these barriers will require concerted, global cooperation coupled with efficient implementation and monitoring on the ground, at the building scale. The following is a suggestive list of barriers the SBC programme aims to address:

- Complexity managing processes and information between the large number of building and construction sector actors which limits the ability to design and select sustainable and safe materials and systems.
- Fragmentation of actors and the lack of integration among stakeholders.
- Limited economic and financial tools geared towards sustainable buildings and construction –from the legal language of contracts to the lack of appropriate finance mechanisms.
- Lack of baseline and measurement information on building and construction sector sustainability impacts.
- Lack of formal and informal educational and continuing education opportunities for built environment professionals.
- Missing drivers and motivation including lack of awareness among decision makers, insufficient market demand, and lack of adequate market feedback signals.
- Supply chain lacks capacity, knowledge and demand to sufficiently produce safe, sustainable construction materials and services.



- Lack of technical knowledge – large improvements can be made using today's technology but more must be done to develop the building materials and systems that will enable sustainable consumption and production in the sector.
- Widely varying capacities of national, regional, and local actors and the disparity this can cause in decision-making.

Social challenges in the construction and building sector, including worker safety, hazardous materials, corruption, land rights, indoor and outdoor health, affordability, population changes and buildings adapted to vulnerable groups.

9. Who are the lead and co-lead actors of the programme?

Name of organization and name of responsible person	Type ¹	Scale ²	Role and responsibilities	Focal point ³
Ministry of the Environment, Finland (MoE)	Government	National	Lead	Harri Hakaste, harri.hakaste@ymparisto.fi
RMIT	University/Research Institution	National	Co-Lead	Dr. Usha Iyer-Raniga, usha.iyer-raniga@rmit.edu.au
UNEP	IGO	Global	Co-Lead	Arab Hoballah Arab.Hoballah@unep.org
WGBC	NGO	Global	Co-Lead	Roger Platt, Rplatt@usgbc.org

10. Please list the main actors (MAC members and coordinators of work areas, and any relevant partner) in the development and implementation of the programme

Name	Type	Scale	Focal point
Building Construction Authority – Singapore	Government	Local	ANG Kian Seng, Group Director Research
TERI	Civil Society	International	Hina ZIA, Fellow
Malaysia JKR	Government	National	Salina Binti Sien, Principal Assistant Director
Bioregional	Civil Society	International	Pooran DESAI, Co-Founder
ENERGIES2050/EAMAU	Civil Society/Research Institution	International/Regional	Stephane Pouffary, Founder
French Ministry of Ecology, Sustainable Development	Government	National	Florent MORETTI, Vice-head of Office Building Technical



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an Energy			Regulations and Quality
Politecnico di Torino – Department of Architecture and Design	Academia	National	Mario GROSSO, Associate Professor
World Business Council for Sustainable Development	Business Organisation	International	Roland Hunziker, Director Sustainable Buildings and Cities
UNEP-SBCI	Civil Society	International	Curt Garrigan, Coordinator
UNOPS	IGO	International	Cecilia Lopez y Royo, Liason Officer
Construction Industry Development Board, South Africa	Government	National	Rodney Milford, Programme Manager
Skanska	Business Organisation	International	Noel Morrin, SVP Sustainability
Southeast Energy Efficiency Alliance	Civil Society	Regional	Lisa Wilson, Vice President
UN Habitat	IGO	International	Christophe Lalande, Leader Housing Unit
Development Alternatives	Civil Society	International	Zeenat Niazi, Vice President
Royal Institute of Chartered Surveyors	Civil Society	International	Ursula Hartenberger, Global Head of Sustainability
World Wildlife Fund	Civil Society	International	Laila Petrie, Manager, Corporate Relations

11. Is this programme contributing to a multilateral environmental agreement and/or the MDGs or upcoming SDGs? If yes, which one(s)?

Sustainable building and construction contributes to the achievement of the MDGs, in particular MDG 7- ensure environmental sustainability addressing specifically the related Target 1 “Integrate the principles of sustainable development into country policies and programmes”. MDGs will be replaced by SDGs from 2016 on and therefore the linkage to the Post-2015 agenda, where the SDGs feature as a key element will be central. The negotiations of the Post-2015 are ongoing, but from the outputs that are already available, it is clear that the proposed 10YFP Sustainable Buildings and Construction Programme will be developed with a view to ensuring both the focus and flexibility to contribute to the implementation of the post-2015 development agenda. It will particularly contribute to goals Ensure access to affordable, reliable, sustainable and modern energy for all (Goal 7), Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation (Goal 9), Make cities and human settlements inclusive, safe, resilient and sustainable (Goal 11) and Ensure sustainable consumption and production patterns (Goal 12). The Post-2015 agenda will be adopted in September 2015. The proposed programme has the potential to contribute to the implementation of a number of multilateral agreements, for example the UNFCCC. It also facilitates cooperation between the



key UN actors involved in the field of urban development. In this regard UN Habitat and UNEP are revitalizing their cooperation under the Greener Cities Partnership, to which the SBC-programme is well placed providing input.

12. Please list existing and pledged funding sources for the programme. How will the programme mobilize additional resources to scale up and replicate implementation?

The 10YFP Trust Fund will provide financial support to initiatives primarily at the regional and national levels, in support of the 10YFP programmes. Funds will be made available in the launch phase of the programmes, but in the longer term funding will be generated from multiple sources. Fundraising based on innovative projects and implementation teams of buildings and construction related stakeholders will be a crucial aspect of the programme implementation.

Generally the following potential donors will be solicited for funding:

- National and local governments;
- Development banks and other financial institutions;
- Multilateral and regional organizations and foundations;
- Private sector organizations and private enterprises.
- Self-financing (for Developed countries)

13. Please describe how the programme proposal has been developed, including details of how the proposal has taken into account feedback from consultation with relevant stakeholders (in addition to lead actor(s) and partners listed in question 9 and 10), social dialogue. Please use the table to provide details of the organisations or people that have been consulted.

This document was developed through expert stakeholder engagement during workshops and through one-on-one interviews with over a number of sector experts. This preliminary expert input was captured in the draft concept note that was circulated for public comment from September 2014 until November of 2014. Following the public comment period the concept note was revised and updated and was once again circulated to key experts in the field of sustainable buildings and construction for validation. The concept note was then used for input into this application form.

Name	Type ¹	Scale ²	Focal point ³
International Initiative for a Sustainable Built Environment (iISBE) - CANADA	Civil Society	Global	Nils Larsson, Executive Director
Ministry of Environment and Sustainable Development, Mauritius	Government	National	M. Outim of Ministry of Environment and Sustainable Development
Ministry of Environment,	Government	National	Gunilla Blomquist, Deputy Director,



Secretariat



Sweden			Ministry of Environment
Ministry of the Environment, Finland	Government	National	Taina Nikula, Advisory, Ministry of the Environment, Finland
Environmental Protection Agency, USA	Government	National	Hodaya Finman, US National Focal Point, 10YFP EPA
Walloon Public Service-Sustainable Development Department, Belgium	Government	National	Natacha Zuinen Wallon Public Service-Sustainable Development Department
Korea Environmental Industry and Technology Institute	Academia	National	Dr. Yong-Joo Kim, President, KEITI Korea
Ministry of Ecology, Sustainable Development and Energy	Government	National	Florent Moretti, Ministry of Ecology, Sustainable Development and Energy, France
Building Construction Authority, Singapore	Government	National	Ang Kian Seng, BCA Singapore
Tsinghua University	Academia	National	Da Yan, Associate Professor Tsinghua University, China
Bioregional Development Group	Civil Society	International	Sue Riddlestone, BedZED Centre, Surrey, UK
Udyama	Civil Society	National	Pradeep Mahapatra, Bhubaneswar Odisha, India
Canada Wood	Business Sector	National	Sylvain Labbe, CEO Canada Wood, Quebec Canada
Ministry of Labour, Technological Development and	Government	National	H. Aroma, Prinshendrikstraat 17 Suriname



Secretariat



Environment, Suriname				
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Building Research Institute, Poland	Academia	National	Building Research Institute, Warsaw Poland	
Politecnico di Torino	Academia	National	Mario Grosso, Torino, Italy	
NPS Group	Business Sector	International	Dr. Feifei Sun, NPS Group, Hull UK	
University of Bradford	Academia	National	Dr. Crina Oltean-Dumbrava, Bradford West Yorkshire UK	
Environment Quality Authority, Palestine	Government	National	Samer Qasem Dwaikat, Environment Quality Authority, Palestine	
Royal Melbourne Institute of Technology	Academia	National	Dr. Iyer-Raniga, RMIT Melbourne Australia	
UNEP-SBCI	Civil Society	International	Teresea Coady, Chair of Advisory Board, UNEP-SBCI Paris, France	
Environmental Protection Authority, Yemen	Government	National	Ahmed Abdullah Al-Aroumi, EPA, Yemen	
Politecnico di Milano, Italy	Academia	National	Bruno Daniotti, Politecnico di Milano, Dept. of Architecture, Built Environment and Construction, Via Ponzio, Milano Italy	



14. Information on Submitting organization(s) (Ideally lead and co-leads of the programme)

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Ismo Tiainen

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Date: 24th March 2015

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Date: 25/03/2015

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