BUILT ENVIRONMENT: WIN-WIN-WIN WIN DECOUPLING OPPORTUNITIES

Key programmes on SCP supporting the transition to a "green" low-carbon economy

SUSTAINABLE CONSUMPTION AND PRODUCTION FOR DEVELOPMENT

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MARRAKECH TASK FORCE ON SUSTAINABLE BUILDINGS AND CONSTRUCTION with Finland as lead country
HOW DO SUSTAINABLE BUILDINGS PERFORM?

WHAT MAKES THE CONSTRUCTION PROCESS SUSTAINABLE?
Architect: Ashok Lall
SUSTAINABLE
NOT "GREEN" ONLY
NOT "GREEN" RATINGS ONLY
Buildings and construction as tools for promoting more sustainable patterns of consumption and production

Mainstreaming sustainability and sustainable use of energy is particular as a principle of urban development has emerged as a crucial challenge. This Brief examines current issues in the area of sustainable buildings and construction, and looks at policies that would need to be implemented to mainstream sustainability in that sector.

The global level of urbanization has recently reached the 50 per cent watershed. Urbanization will continue to expand rapidly. It will touch upon the lives and energy consumption patterns of hundreds of millions of people, who are going to move to urban areas which are being built right now. One of the crucial questions of our time is how to mainstream sustainability, and sustainable use of energy in particular, as a key principle of urban development.

Buildings and urban infrastructure create the framework for our daily life. Real estate represents a massive share of public and private property, and its long-term value is linked with financial stability. As major sectors of national economies, the production of building materials and construction create hundreds of millions of jobs all over the world.

From a life cycle perspective products from only three areas of consumption — food and drink, private transportation, and housing — together are responsible...
RESOURCE USE – PERFORMANCE
LIFE CYCLE – PROCESS
40% of all energy is consumed in buildings and construction.

30% of all CO2 emissions.
NEW CONSTRUCTION: NET-O-ENERGY BUILDINGS!

- BUILDINGS THAT MAKE ENERGY SAVING EASY
- BUILDINGS THAT ARE ENERGY EFFICIENT
- BUILDINGS THAT PRODUCE RENEWABLE ENERGY
AFFORDABLE HOUSING
& CLEAN AFFORDABLE ENERGY
& DECENT CONSTRUCTION WORK
ENERGY EMBODIED IN CONSTRUCTION WORK & MATERIALS

Architect: Ashok Lall
ENERGY CONSUMED FOR THE USE, OPERATION & MAINTENANCE
ENERGY FOR OPERATION vs. FOR CONSTRUCTION & MATERIALS

80 – 90%

10 – 20%
REFURBISHMENT OF EXISTING BUILDINGS
LAND USE PLANNING
SUSTAINABLE INFRASTRUCTURE

Source: Sir Richard Rogers
MOBILITY INFRASTRUCTURE
ITD-ITDCEM JV
DELHI METRO
DISTRIBUTED RENEWABLE ENERGY REGIME BY SMART GRIDS
BUILDINGS
AS GENERATORS OF ENERGY
SUSTAINABLE CONSTRUCTION ECONOMY

• LOCAL RENEWABLE ENERGY
• LOCAL LOW-CARBON MATERIALS
• REFURBISHMENT FOR EE
• LOCAL DECENT WORK
• EE & CO2 SAVINGS FOR POVERTY ALLEVIATION
• BETTER LIVING CONDITIONS
PROGRAMS TO SUPPORT SBC, e.g.

- Policy and policy implementation toolkits
- NAMAs
- Targets and measuring tools (MRV)
- National coalitions to promote SBC
- Demonstration projects
- Networks for capacity building, e.g. ACaSBE
- ... ...
Vision
The vision for ACaSBE is to establish a networked capacity building centre for the creation of resilient and regenerative human settlements. It has three main functions:

1) To provide post-graduate and continued professional education on the principles and practices of integrative sustainable design and construction to professionals, industry and decision-makers. Courses offered take a trans-disciplinary action-learning approach that balances theory with practical application in real-life situations so that participants will have the necessary technical capacity to implement their knowledge.

2) To conduct collaborative research on the strategies, processes and technologies that will allow humans to effectively participate in the functioning, regeneration and evolution of the social-ecological systems that make up the built environment.

3) To raise awareness of the benefits of alternative approaches and disseminate the knowledge generated amongst built environment professions, the construction industry and decision-makers on the African continent and other developing countries.

Structure
ACaSBE would operate as a separate legal entity hosted at its founding partner the University of Pretoria in South Africa. From there it would collaborate with other universities in Africa to develop joint curricula and research projects, drawing on specific areas of specialisation within each of these universities. Using Web 2.0 tools and approaches, ACaSBE draws on a multi-disciplinary international network of experts and institutions to provide input into course modules and provide distance learning to students throughout the continent and beyond. ACaSBE will also collaborate with the Construction Industry Development Board of South Africa and the Academy of the Development Bank of Southern Africa. Internationally a number of institutions have indicated their interest in partnering with such a Centre. These include: The Energy and Resources Institute, India; the American University in Cairo, Egypt; ETH, Switzerland; UNESCO Chair of Technology, EPFL, Switzerland; University of Salford, UK; University of British Columbia, Canada; University of Rio Grande do Sul, Brazil; Chalmers University of Technology, Sweden; Polytechnic of Turin, Italy.

Estimated funding requirements
The table below provides an estimate of establishment costs for the first three years. It is intended that after this period ACaSBE moves towards a self-funded model with funds generated through industry sponsorships, CPD courses and research projects.