

Discussion FORUM

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Building Codes and Energy Conservation

Washington-area professionals gathered on June 6th for the 34th IRG Discussion Forum for a panel discussion on "Building Codes and Energy Conservation" moderated by Satish Kumar, Chief of Party of the ECO-III project in India. Dr. Kumar was joined by Mark Ginsberg of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, and Jeffrey Harris of the Alliance to Save Energy, a U.S.-based consortium of manufacturers and service providers engaged in the energy efficiency business. They pointed to the many parallels between the Indian and U.S. experiences in enacting building codes and the lessons learned on each side.

The "unbelievable amount of construction" that is taking place in India today is pushing energy consumption to unprecedented levels — especially in the commercial sector, which is expanding more than 9% a year, Satish Kumar told the gathering of development and energy experts. Some 600 new shopping centers are expected to be built by 2010 and at least 55 million square feet of premium office space will be needed to meet the flourishing demand.

But this "phenomenal" pace of construction presents both challenges and opportunities for improving energy efficiency in commercial buildings. On the one hand, changing standards in commercial buildings means that buildings are consuming two to two and a half times the energy as before. On the other, it is easier to build energy-efficiency measures into new buildings than to refit existing structures. That explains why the emphasis of the Indian Energy Conservation Building Code (ECBC), which came into effect last year, has been on new construction.

The first phase of the USAID-funded Energy Conservation and Commercialization (ECO) project,



An energy efficient building in Hyderabad.

which began in January 2000, helped India set up the Bureau of Energy Efficiency (BEE) to enforce the country's Energy Conservation Act of 2001. ECO-II helped agencies in a few targeted states develop energy conservation strategies and test new approaches through pilot projects. It also contributed to the establishment of India's first energy efficiency

codes for buildings. The third phase, ECO-III, is helping the BEE implement the ECBC in Gujarat and Punjab.

Producing a building code is just one step along the way. The challenge is getting people and businesses to fully appreciate its value and comply with it.

ECO-III, Satish Kumar explained, has placed "a strong focus" on developing the capacity of Indian professionals — through such means as energy modeling, demonstration projects, and high-level undergraduate and post-graduate courses in energy efficiency. So far, the project has developed a number of awareness-raising and technical resources to build a corps of well-trained — and committed — experts in the country, including the ECBC User Guide and Tip Sheets, and has worked closely with architectural and engineering schools to develop curricula. "Colleges are very enthusiastic about working with us," he said.



Alliance to Save Energy: www.ase.org

PePS: www.pepsonline.org

Model Energy Code (MEC): www.energycodes.gov/implement/pdfs/modelcode.pdf

COMCheck: <http://www.energycodes.gov/comcheck/>

Energycodes.gov: www.energycodes.gov/

Energy Codes 2008, July 22 - 25, 2008, St. Paul, Minnesota: www.energycodes.gov/news/ecodes2008/

But producing a building code is just one step along the way. The challenge is getting people and businesses to fully appreciate its value and comply with it.

While in the U.S., it is up to states and local governments to enact their own building codes, in India, the Government has the power to

make compliance mandatory. For the first several years, it was decided that the ECBC would be voluntary — in order to build support from consumers and allow time for adjustments and refinements to the Code. As Dr. Kumar says, “they are still in ‘learning mode’ and will continue to improve on the provisions and wording of the Code before it becomes mandatory.

There is a need to change mindsets, so that conserving energy — and adhering to a building code — “becomes part of accepted practice,” as Jeffrey Harris of the Alliance to Save Energy said, until people feel it’s “the right way to do things.”

All three panelists emphasized the importance of investing in the “soft”

Note of endorsement:

“The ECO-III project has promoted energy efficiency in the commercial sector to the national agenda. The development of an energy conservation building code, preparation of guide books, tip sheets, educational curriculum and technical manuals will go a long way in mainstreaming energy efficiency in commercial buildings in India.”

- Dr. Ajay Mathur, Director General, Bureau of Energy Efficiency

resources — providing training, tools, and resources to build the capacity of energy professionals.

To overcome the resistance of some industry players, who are deterred by short-sighted thinking (such as cost-per-building) rather than focusing on long-term energy savings, Mark Ginsberg mentioned a number of

resources that the Department of Energy has made available, such as the upcoming Energy Codes 2008 conference,

taking place this summer in St. Paul, Minnesota, which will bring together state energy office representatives and members of the building industry.

The Department of Energy has developed a number of tools to train building officials and facilitate compliance. The Model Energy Code (MEC) contains energy efficiency criteria for new residential and commercial buildings and additions to existing buildings. COMcheck software, which is available on the DOE website, demonstrates compliance with commercial and high-rise residential building energy codes.

The MEC represents a kind of “baseline” of compliance, Mr. Ginsberg noted. Through LEED and other kinds of high-performing incentives, however, users should be encouraged to exceed the minimum

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Satish Kumar discusses building codes in India and their adoption by the construction industry.



Jeff Harris and Mark Ginsberg explain the tools developed by the Department of Energy and the need to go beyond building codes.

recommendations. To set an example, public sector leadership in the U.S., Jeff Harris added, should be expected to “not only meet the Code but go beyond.”

In addition, Mr. Harris said, “We need to start thinking of codes that look beyond design and construction,” and make codes that are “technology-ready,” as it’s easier to add technologies later if they have been anticipated. He

pointed to Austin, Texas, where new homes are designed to be “solar-ready.” He also mentioned PePS, a collaborative effort funded by multiple sources to promote and assist energy conservation programs in governments around the world.

There are about 20 green buildings certified under the Indian version of the LEED system, and about 100 registered buildings waiting to be certified, making it second only to the United States in number of buildings registered under a LEED-type system. There is a “pretty robust” awareness of green buildings in India, Dr. Kumar said, with considerable government buy-in. This buy-in was ensured when the ECBC was written into the 2001 Act.

A number of ideas for incentives are being discussed in India, including “fast-tracking” developers when they apply for installation of utilities or lowering fees if they are ECBC-compliant.

Satish Kumar, Chief of Party, Energy Conservation and Commercialization Project, International Resources Group

Dr. Satish Kumar of International Resources Group (IRG) heads the USAID ECO-III Project. He is also a scientist (currently on leave) at Lawrence Berkeley National Laboratory where he has worked in various capacities for 10 years. He is considered a leading international expert in the field of building and public sector energy efficiency, monitoring and verification of energy savings, and indoor environmental quality. He is a co-founder and board member of Efficiency Valuation Organization, the organization that maintains the International Performance Measurement and Verification Protocol. He has a Bachelor’s degree in Architecture from Indian Institute of Technology, Roorkee and a Ph.D. in Building Science from Carnegie Mellon University.

Jeffrey Harris, Vice President for Programs, Alliance to Save Energy

Jeffrey Harris joined the staff of the Alliance to Save Energy in September 2006 as Vice President for Programs, after more than 25 years as a staff scientist with the Environmental Energy Technologies Division at Lawrence Berkeley National Laboratory. He brings skills in research and analysis, including analysis of the energy-saving potential of proposed policies, project management, and fundraising. His areas of expertise include U.S. energy efficiency policy, international energy efficiency, utility and government sector energy efficiency programs, energy use in buildings, and market transformation. Mr. Harris has an undergraduate degree in economics from Stanford and a master’s degree in urban and regional planning from the University of California, Berkeley.

Mark Ginsberg, Senior Executive Board Member, EERE Board of Directors, U.S. Department of Energy

Mark Ginsberg was appointed by the Assistant Secretary for Energy Efficiency and Renewable Energy (EERE) to serve on a newly created EERE Board of Directors, effective July 1, 2002. In that capacity, Mr. Ginsberg and the Board direct EERE policy, strategies and budgets and serve as “ambassadors” for EERE. As a senior executive advisor to the Assistant Secretary, his portfolio includes energy efficiency, renewable energy, and climate change technologies. His work now includes an international portfolio, including work with the European Union, Asia Pacific Partnership for Clean Development and Climate, and several bi-lateral agreements.

IRG Speaks Out

President and CEO, **Asif M. Shaikh**, spoke at the May 15 closeout ceremony for the IRG-led USAID/Senegal “Wula Nafaa” program, in Tambacounda, Senegal. Mr. Shaikh also participated in a USAID roundtable in Dakar during his visit.

As Chair of the Institutional Members (IM) group of SID-Washington, Mr. Shaikh hosted Major Shannon D. Beebe, Senior Africa Analyst, U.S. Army Staff, and Dr. Elizabeth (Libby) Turpen, Senior Associate, The Henry L. Stimson Center, at an IM Event on May 28th.

Mr. Shaikh and Corporate Associate **Julie Casabianca’s** article, “Tools to Implement Foreign Aid – Why Contracts Make Sense,” was published in the Summer 2008 issue of the Professional Services Council’s magazine, *Service Contractor*.

Dr. Satish Kumar, Chief of Party, USAID ECO-III Project, presented “Promoting Urban Energy Efficiency in India through a Multi-pronged Strategy: USAID’s ECO-III Project” at the World Bank Energy Efficiency Group meeting on June 4th.

Dr. Kumar and **Alain Streicher**, Vice President, Energy and Environmental Management, gave a presentation entitled “Energy Conservation Building Code: a Key to Sustainable Urban Development in India” at the Woodrow Wilson Center on July 10th.

Sylvia Megret, Principal and Recruitment Systems Director, spoke on a panel for mid-career professionals at SID-Washington’s Annual Career Fair on May 7th. Ms. Megret also participated in the Association for International Agriculture and Rural Development’s (AIARD) Future Leaders roundtable on June 4th.

Durriya Badani, Recruiter, was appointed by Maryland Governor, Martin O’Malley to the state’s Commission on Middle Eastern American Affairs.

John Acree, Senior Manager, briefed IRG staff on “USAID/ OFDA’s Global Strategy Design Exercise: Changing Mindsets within the Humanitarian Assistance Community” on May 16th.

Pat DeLaquil, Principal, Energy and Environmental Management, briefed IRG staff and guests on IRG’s national capacity building and MARKAL/TIMES integrated energy modeling efforts under the ADB Pakistan project on June 30th.

ABOUT THE IRG DISCUSSION FORUM

The IRG Discussion Forum is an event that addresses issues affecting international development. Each session is informal, with guest speakers and attendees participating in a personal capacity. For comments, questions, or information on the Discussion Forum, contact discussionforum@irgltd.com or call IRG at 202.289.0100

International Resources Group (IRG) is an international professional services firm that helps governments, the private sector, communities, and households manage critical resources to build a cleaner, safer, and more prosperous world. Since 1978, IRG has completed over 750 contracts in more than 135 countries, delivering high-quality, cost effective services that promote positive economic growth, institutional and social change, and intelligent use of resources—human, physical, environmental and financial. IRG’s international development staff include world-renowned specialists who have pioneered many of the analytical techniques employed in their fields. IRG’s ability to provide management, economic, and technical advice is further enhanced by the diversity, cross-cultural experience, foreign language skills, and management capabilities of staff based in the Washington, DC headquarters, corporate offices in India and the Philippines, and project-dedicated offices around the world.

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