



**Asia-Pacific  
Economic Cooperation**

# Green Buildings and Green Growth: The Enabling Role of Standards and Trade

## MEETING OUTCOMES

**APEC Sub-Committee on Standards and Conformance**

**APEC Committee on Trade and Investment**

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## **Green Buildings and Green Growth: The Enabling Role of Standards and Trade**

### **MEETING OUTCOMES**

The APEC Subcommittee on Standards and Conformance hosted a conference on *Green Buildings and Green Growth: the Enabling Role of Standards and Trade* on March 3-4, 2011 in Washington, D.C.

This conference was part of the project on “Sustainability in Building Construction (Commercial Buildings) – Efficiency and Conservation” (CTI-SCSC 33/2010T), which also included a survey of APEC member economies on Sustainability in Building Construction (Commercial Buildings) carried out in early 2011. The project consultant for the green buildings survey reported the findings to the conference, which found that many differences exist related to “green” definitions, criteria of green building policies, and the various methods of implementing standards between economies, and lack of commonality in conformity assessment procedures.

Keynote speakers for the conference included government officials Ronald Sims, U.S. Deputy Secretary of Housing and Urban Development, and Gary Locke, U.S. Commerce Secretary, as well as private sector representatives Jim Thomas, President of ASTM International and Frank O’Brien-Bernini, Chief Sustainability Officer at Owens Corning. Several other speakers during the conference addressed ongoing work in other APEC Fora in the area of green commercial buildings, including in the APEC Energy Working Group (EWG) and APEC Experts Group on Energy Efficiency and Conservation (EGEE&C).

#### ***Session 1: Policy frameworks to encourage sustainable building***

This session examined several policy frameworks used in APEC economies to encourage sustainable building, with an emphasis on how these utilize standards and conformity assessment procedures to ensure optimal outcomes. Chinese Taipei discussed the importance for governments to promote green building technologies, and stressed the importance and the need to promote green building awareness to the public through lectures, materials, incentives, and recognitions. Chile noted that energy efficiency is very important in Chile because it is a nation that is dependent on energy imports, and over the long-term will not be able to sustain economic growth if the current energy consumption trends continue. Australia noted that voluntary consensus standards can play a major role in promoting sustainable building, which would not necessarily require expanding regulations in this sector. Singapore reported that the role of the government is to encourage the private sector to implement green technologies, noting a continuing need for training green building professionals. Indonesia presented several green building initiatives in Indonesia and raised the issue of defining green and sustainability.

Panelists emphasized the importance of training staff to actually do the green building work - it is one thing to set standards, but if there is no one trained to do the work that would enable a community to reach those standards, it will not be achieved. Singapore mentioned they were in the process of training 10,000 technicians in a city with a population of 5 million. When asked whether their work was driving market acceptance of green building and associated strategies or if they were responding to market demand, almost all of the panelists agreed that their work was driving the demand.

### ***Session 2: Building Codes: the move to green***

Speakers in this session examined the fundamentals of building codes, and discussed how various codes have been augmented with dimensions of sustainability. Presenters represented the Development Center for Appropriate Technology (DCAT), the International Code Council (ICC), the Association of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) and the International Association of Plumbing and Mechanical Officials (IAPMO). While each presenter addressed codes for various aspects of green buildings, they were uniform in noting that there must be consistent evaluation of claims of green attributes, incorporation of new technology to allow for use of innovative materials and components, inclusion of input from various stakeholder interests, and enforcement of codes in order to ensure implementation of sustainability codes has a positive impact on the built environment.

### ***Session 3: Managing the Environmental Attributes of Sustainable Building Materials in Codes and Standards***

This roundtable session focused on the evolving tools that identify and verify the environmental attributes of materials and products. Panelists representing Athena Sustainable Materials Institute, UL Environment, the American Wood Council, the National Fenestration Rating Council and Kingspan Insulated/Construction Specifications Institute. Panels discussed options for, and provided examples of, codes and standards that recognize environmental attributes developed through a technically-robust process for use in a global marketplace.

Panelists agreed that there is difficulty in conveying meaning and scientific rigor behind various 'green labels' in APEC markets. The U.S. Environment Protection Agency recently calculated that there are over 500 'green' product labels in the global market (source: U.S.), which the panelists and audience agreed can and does create confusion for consumers and in some cases, product 'green washing.' One comment from the audience was to look into the "Global Eco Label Network," which coordinates among the eco product labels and provides a reciprocity agreement. Additionally, industry does not have a clear view on what is a 'green building' requirement.

### ***Session 4: Performance targets and rating systems for sustainable buildings***

This session focused on the performance rating systems used in APEC economies. Speakers compared different systems in use, and discussed how the differences can impact trade. Understanding both the diversity and commonalities of rating, certification and labeling systems requires developing a common understanding of terminology and the roles of these different systems. There is much work to be done yet to determine an

appropriate balance of global harmonization and local development and focus in these systems. It is very difficult to cover the full range of variability even in one country much less between all of them.

Speakers noted that there is a major need to begin to align the ongoing development processes between codes and standards (pushing up from the minimum thresholds) and rating systems (pulling up from above) as well as certification and labeling systems. It is possible but challenging to carry this out both at the national and the regional economy levels. It is vital to increase awareness about and develop strategies to tie actual building performance into all these systems, in order to move beyond the potential performance to achieve actual performance goals.

### ***Session 5: Case Studies: how manufacturers are responding to competitive pressures of exporting green***

This session looked at exporting 'green' from the manufacturer's perspective, and included expert speakers from Armstrong World Industries, Schneider Electric, and United Technologies. Standards and code development is quite active in the green space, and companies and governments are having trouble keeping track of these activities. There is a role for both mandatory and voluntary measures to create the right incentives to transform the market. Speakers also noted that requirements are not being coordinated across the APEC economies, leading to divergent approaches and lack of predictability for company market access. Existence of multiple and often inconsistent testing and labeling requirements were noted as particular problems.

The green buildings sector is complex, involving numerous actors with different motivations and who do not necessarily coordinate their actions. Lack of knowledge and visibility of the issue for stakeholders are challenges that need to be overcome. Possible approaches to address the market access issues encountered can be found by having APEC economies that are WTO Members ensure that they are operating in a manner consistent with the WTO Agreement on Technical Barriers to Trade, including its notification requirements. The June 2000 APEC-OECD Integrated Checklist on Regulatory Reform also is a valuable tool to ensure regulatory quality. To address market access and other issues, regulators were urged to include stakeholders in the regulatory review process and conduct regulatory impact assessments when considering whether to regulate.

The final presentations of the conference focused on ***the future of green buildings***, which included speakers from SOM China, the U.S. Environmental Protection Agency, and the United Nations Environment Programme (UNEP). Speakers discussed the important emerging trends and initiatives that will contribute to the future of green buildings, noting that while much of the technology that underpins green buildings already exists, APEC economies need an enabling framework to drive the demand and implementation of further green building.

### **Breakout Session and Meeting Conclusions**

A great deal of information was shared about current practices concerning green buildings policies (and the standards, conformity assessment, codes), including through

the report of the APEC Survey on Sustainability in Building Construction (Commercial Buildings), member economy presentations throughout the workshop, and a special report on the regional status report on sustainable building policies in South-East Asia by UNEP and Singapore. Activities that will follow upon this conference and the survey findings include two case studies to be undertaken this year (topics to be determined based on this meeting outcomes and evaluation input) and a follow-up conference to be held in the third quarter of 2011 (date/location are also to be determined).

In addition to the follow-up activities from this conference that are already planned, meeting participants discussed the following concrete actions for APEC to consider:

1. Information Exchange
  - Successful business case studies on energy and cost savings of green buildings
  - Education modules to provide information and technology transfer
  - Create an experts list for communication
  - Sharing of existing databases
2. Open a dialogue about moving towards common definitions and life cycle analysis reporting templates.
3. Identify and understand commonalities within APEC on approaches to standardization, building codes and conformity assessment.
4. Study the economic impacts of green buildings and GHG emission reduction
5. Systematic capacity building for all stakeholders in this area
6. Accessible E-modules /Webcasts
7. Cooperation with other APEC Fora, such as the EWG, Ecotech, and consideration of forming a Green Buildings Experts Group

Meeting participants also identified several existing tools that can be leveraged by APEC in the space of green buildings: the WTO Technical Barriers to Trade notifications for proposed technical regulations on green commercial buildings; participation by APEC members in the development of standards and codes; and expertise within the Specialized Regional Bodies (SRBs).

The common challenges to increased APEC coordination and trade in the space of green buildings included differences in language, climate, green washing, and urban environment needs. Several of the potential barriers to trade that were also discussed include multiple labeling, certification marks, rating systems, and associated marketing costs.