



ASIA-PACIFIC PARTNERSHIP On Clean Development and Climate



BUILDINGS AND APPLIANCES TASK FORCE OVERVIEW



OVERVIEW

The Asia-Pacific Partnership on Clean Development and Climate (APP) brings together the governments and private sectors of Australia, Canada, China, India, Japan, Korea, and the United States in an innovative effort to promote and create an enabling environment for the development, diffusion, deployment and transfer of existing and emerging cost-effective, cleaner technologies and practices, through concrete and substantial cooperation so as to achieve practical results. The Partners also cooperate on the development, diffusion, deployment, and transfer of longer-term transformational energy technologies that promote economic growth while enabling significant reductions in greenhouse gas intensities. In addition, the Partners share experiences in developing and implementing our national sustainable development and energy strategies, and explore opportunities to reduce the greenhouse gas intensities of Partner economies.

The APP leverages the expertise of public and private partners in five key energy-intensive sectors – aluminum, buildings and appliances, cement, coal mining, and steel – and three energy supply sectors – cleaner fossil energy, power generation and transmission, and renewable energy and distributed generation. Together, APP partners are promoting a cleaner energy future by identifying and taking advantage of opportunities for international collaboration to commercialize and deploy cleaner technologies, particularly in Partners China and India.

APP Partner Countries account for more than half of the world's economy, population and energy use.

Buildings and Appliances Task Force

The buildings sector, which includes buildings as well as the energy-using equipment and appliances within them, uses between 20 and 40 percent of total primary energy in APP Partner countries. APP Partners have a solid history of cooperation on energy efficiency for buildings and appliances and have already taken a range of bilateral and other collaborative actions in this area. The APP Buildings and Appliances Task Force's activities are organized around three thematic areas related to appliances (harmonizing test procedures for energy-using appliances and equipment, reducing the use of standby power, and market transformation) and seven related to buildings (certification, improvements to existing buildings, codes, high-performance design, utility regulation and incentives, "smart" systems, and green leasing).

By addressing power demand in appliances, office and consumer electronics, and lighting, as well as building design and operations, the Task Force strives to significantly improve energy efficiency, especially in the residential and commercial sectors. Reducing the use of energy for buildings and appliances decreases the demand for primary energy and is a key means to deliver better economic performance, increase energy security, and reduce greenhouse gas and air pollutant emissions.



Top: The Buildings and Appliances Task Force (BATF) is working to harmonize best practices on household refrigerators.

Middle: BATF meeting in Seoul, Korea, June 2008.

Bottom: The BATF is harmonizing test procedures for compact fluorescent lamps (CFLs).

Front: The BATF is working to harmonize window rating procedures and labeling.

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Representative Buildings and Appliances Task Force (BATF) activities include:

Harmonization of Test Procedures

In an effort to eliminate a major barrier to developing successful standards and labeling programs, BATF harmonization of test procedures projects work to generate harmonized test procedures among APP Partner countries, such as common methods of testing and gauging energy performance of selected appliances, electric motors, motor systems, HVAC systems, refrigerators and electronics. BATF Partners have created forums to facilitate dialogue between government officials and technical experts to share experiences and data of testing methodology and performance requirements. The goal of the BATF's harmonization of test procedures projects is to encourage the growth of international markets for more energy-efficient products and new energy-saving technologies, by reducing the burden and disincentives to manufacturers of needing to undertake multiple tests for different markets.

Alignment of National Standby Power Approaches

APP Partners recognize that standby power is a growing concern in their respective countries, however no two Partner countries approach to standby power management is the same. Experts have demonstrated across a wide range of products that wasted standby power can be significantly and cost-effectively reduced without affecting product functionality and performance. Addressing standby power is among the most cost-effective measures to increase the efficiency of products. The BATF is currently working to build on existing national and international initiatives and

focusing on better understanding market trends and cost-effective technical opportunities to reduce standby power levels in a range of devices. The BATF's efforts in standby power encourage actions by each APP Partner country to accelerate market acceptance of new energy conserving technologies that can help reduce unnecessary standby power usage.

Market Transformation Policies in APP Countries

In an effort to encourage market transformation in the appliances sector, BATF Partner countries with a wide-range of market-oriented policies and programs dealing with energy-efficient appliances are sharing experiences to extract lessons learned and highlight best practices. Areas of focus include voluntary labeling and recognition programs for energy-efficient products, utility rebates and tax incentives to both consumers and manufacturers, training and information campaigns, and analyzing consumer demand (e.g. by government agencies) to create a "market-pull" for energy-efficient products. BATF Partners are committed to reduce energy consumption and its environmental burdens through innovation and enhancing the production of economically viable energy-efficient products.

Evaluate policy and management systems for building certification and encourage adoption where appropriate

Energy labeling is a key mechanism for ensuring effective energy-saving management and has a broader positive and important effect on economy-wide energy savings. The BATF is involved in building energy evaluation and certification projects not only to facilitate energy-savings, but also to improve market transparency which can be a catalyst for greater energy efficiency in buildings. In

order to overcome institutional, market, and other barriers, BATF building certification projects foster building energy labeling through the promotion of: policy and management systems; technical standards and evaluation methods; and best practices.

Develop a guide to retrocommissioning of existing buildings

Substantial opportunities exist to improve the energy performance of buildings through advances in building operation and maintenance. There are also untapped opportunities for cost-effective retrofits to improve energy performance. Even many of the best-managed buildings do not collect and analyze energy use data. The BATF is currently working to employ market transformation strategies to improve energy efficiency in commercial and residential buildings. BATF projects are working to: reduce energy use in participating commercial buildings by 10-15 percent, through no-cost/low-cost measures and cost-effective retrofits; improve energy-efficiency in residential buildings by improving installation of HVAC equipment; and incorporate building performance monitoring and recognition activities into government and business policies, programs, and building portfolio management practices.

Survey building energy codes and Develop Scenarios for reducing energy consumption through energy code enhancement in APP countries

Most APP Partner countries have their own building codes, standards, and labeling schemes (mandatory and/or voluntary) for building energy conservation. However, these building codes and performance levels are widely varied, resulting in trade barriers for companies to make inroads into foreign markets. The goal of the BATF's building codes proj-

ects is to enhance mutual understanding of each country's building energy code, with the ultimate objective of increasing international trade among building industries as well as developing and sharing best practices of energy codes and governance systems.

APP web portal for information on high-performance buildings and developments

Improvements in building technologies have led to significant reductions in energy consumption and advances in other clean development and climate objectives, in many cases at no additional cost. The BATF is working to increase the proportion of new buildings and structural developments that incorporate cost-effective and advanced building technologies.

Good practices and lessons learned in the APP region to promote financing and the implementation of energy efficiency programs in utilities

Electric and gas utilities have enormous latitude to finance and deliver efficient end-use energy technology and services to their customers, including the vast majority of residential and commercial buildings in many countries. However, until utilities have financial incentives or regulatory imperatives to pursue improvements in energy efficiency, the adoption of efficiency measures may be inhibited. Through promotion of good practices and provision of technical support, the BATF is working to identify and share successful models of implementing energy efficiency programs and demonstrate innovative utility and regulatory systems approaches.

Smart Meters

“Smart systems” and “smart metering” are key enabling technologies for over-

coming institutional and informational barriers to reducing energy use. These technologies allow for more sophisticated exchanges of information between suppliers and end users of electricity (or other resources such as natural gas) as well as improved electricity system operation at a reduced cost. “Smart systems” increase the knowledge, control, and energy efficiency options available to end users and utility system operators.

Green Leases

Buildings designed to achieve high levels of efficiency often operate at far below their potential without effective management of performance. The BATF is working to increase the efficient energy management of commercial building operations through the promotion of green leases, which provide transparent legal options.

CURRENT BUILDINGS AND APPLIANCES TASK FORCE PROJECTS

Harmonization of Test Procedures for Electric Motors ■ Harmonization of Test Procedures for Motor Systems ■ Phase-Out of Inefficient Lighting

■ Harmonization of Test Procedures for HVAC ■ Harmonization of Test Procedures for Household Refrigerators ■ Harmonization of Test Procedures for Electronics ■ Alignment of National Standby Power Approaches ■ Market Transformation Policies in APP Countries: Handbook and Mapping Tool ■ Workshop on Government Procurement Best Practices ■ Support for Implementation of an Energy Efficiency Endorsement Labeling Program for India ■ Pilot US-China Energy Efficiency Endorsement Labeling Harmonization ■ Evaluate Policy and Management Systems for Building Certification and Encourage Adoption Where Appropriate ■ Pilot Projects On Building Energy Labeling ■ Establish Information Exchange Network for Continuous Revision and Improvement ■ Share U.S. Experiences on Building Data and Benchmarking ■ Training Workshops on Energy Management and Low-Cost EE in Existing Buildings ■ Pilot Implementation of No-Cost and Low-Cost EE Measures in Existing Buildings ■ Retrofit of Existing Building Chillers in India ■ Develop a Guide to Retrocommissioning of Existing Buildings ■ Energy Efficiency Upgrade: Low Energy High Rise Project (Including International Extension) ■ Survey Building Energy Codes and Develop Scenarios for Reducing Energy Consumption Through Energy Code Enhancement in APP Countries ■ Develop/Harmonize Window Rating Procedures and/or Labels ■ APP Web Portal for Information on High-Performance Buildings and Developments ■ Green Building Flagships in China ■ SB08 - 6th World Sustainable Building Conference ■ Good Practices and Lessons Learned in the APP Region to Promote Financing and the Implementation of Energy Efficiency Programs in Utilities ■ Technical Support for China and India ■ Smart Meters ■ Green Leases ■ India Public Sector Market Assessment ■ Quality Assurance Program and Harmonization of CFLs ■ Mitigating Climate Change via Implementation of India's Energy Efficiency Standards and Labeling Program ■ The Urban Climate Project - Building Clean and Efficient Cities ■ Australian-Indian Building Tune-Ups ■ Energy Management Program In India ■ High Performance Commercial Buildings in India ■ Regional Energy Efficiency Centers in India ■ Promotional Framework for Passive Design and Solar Energy Technologies in Energy-Efficient Buildings ■ Indian High Tech Buildings Initiative: Data Centers Pilot ■ China Building Energy Rating Tool (CBERT) ■ US-India Cities Partnership for Sharing Best Practices on Energy and Environment ■ Existing Building Renovation in China ■ Green Space - IT / ITES Special Economic Zone ■ Building Energy Performance Certification Proposal ■ Improving Energy Efficiency in Buildings Through Improved Operations ■ Implementation of Building Energy Codes in China - from Local Partnership to National Building Energy Efficiency ■ International NZEH Coalition / Dialogue ■ Harmonization of Testing Procedures - Energy Recovery Ventilator ■ Role Enhancement of Building Energy Codes Through Development of Building Envelope



For more information on these projects and the Buildings and Appliances Task Force, please visit:

www.asiapacificpartnership.org