



**5th Policy Implementation Committee Meeting
Seattle, 19-20 May, 2008**

BUILDINGS AND APPLIANCES TASK FORCE

Park, Jungwook (Ministry of Knowledge Economy)

Chair

Ginsberg, Mark (US DOE) & Hogan, Kathleen (USEPA)

Co-Chairs

Mission & Goals

- Use cooperative mechanisms to support the further uptake of increasingly more energy efficient *appliances*.
- Promote best practice and demonstrate technologies in *buildings* and *appliances*.
- Support the integration of appropriate *mechanisms* to increase the uptake of energy efficient buildings and appliances.
- Systematically identify and respond to the range of barriers that limit the implementation of end-use energy efficiency practices and technologies.

Review of Tokyo PIC – BATF Actions

- Held in Tokyo on 19-20 July, 2007
- Reported on Status of BATF Projects
- Proposed 3 Flagships, which were approved by the PIC
 - Project 5.5 Retrofit of Existing Building Chillers in India subsequently postponed as flagship
- Renumbering BATF Projects from 14 to 11 was approved by the PIC

Review of 4th BATF Meeting

- Held in Washington DC on 15-16 November, 2007
- Breakout Sessions for Building Certification, High Performance Buildings and Developments, and Utility Regulation & Incentives
- New BATF project numbering framework:
Added numbers to project activities: 45 project activities in total under 11 projects → *Reporting Guidelines* drafted to outline responsibilities of Project Leads and Activity Leads
- BATF joined meeting of APEC EGEE&C to discuss possible collaboration

Approved BATF Projects

	Project No.	Project
Appliances (3)	<i>BATF 06-01</i>	Harmonization of Test Procedures (Korea Lead, Japan/USA Co-Leads) <i>- Flagship 1. Harmonization of Testing Procedures and Quality Assurance -- CFLs</i>
	<i>BATF 06-02</i>	Alignment of National Standby Power Approaches (Australia Lead, Korea Co-Lead)
	<i>BATF 06-03</i>	Market Transformation (Japan Lead, China Co-Lead)
Buildings (8)	<i>BATF 06-04</i>	Building Certification (China Lead, USA Co-Lead)
	<i>BATF 06-05</i>	Improvements to Existing Buildings (USA Lead, Australia Co-Lead)
	<i>BATF 06-06</i>	Role Enhancement of Building Energy Codes (Korea Lead, USA Co-Lead)
	<i>BATF 06-07</i>	High Performance Buildings and Developments (Australia Lead, Japan Co-Lead) <i>- Flagship 2. Green Buildings Flagships in China</i> <i>- Mayors' Training Center</i> <i>- Buildings Center of Excellence</i> <i>- Olympic Village Near-Zero Energy Building</i>
	<i>BATF 06-08</i>	Utility Regulation and Incentives (USA Lead, Australia Co-Lead)
	<i>BATF 06-09</i>	Smart Systems (Australia Lead, USA Co-Lead)
	<i>BATF 06-10</i>	Green Leases (Australia Lead, USA Co-Lead)
	<i>BATF 06-11</i>	Commercial Financing (USA Lead, Australia Co-Lead)



Flagship 1. Harmonization of Testing Procedures and Quality Assurance -- Compact Fluorescent Lamps

• Objectives

- Build on existing standards and efforts in the region to harmonize test procedures and specifications for CFLs and improve the quality of CFLs being produced and sold in APP countries.

• Project Activities

- Analyze Quality of CFLs produced in India -- *Data collection underway; Internal working paper to be drafted.*
- Benchmark Testing of CFLs in India -- *Completed design for sample collection from Indian market; Draft contract in place with Consumer VOICE to manage benchmark testing; CFLs will be shipped from India to China for testing in 3rd Quarter of FY08*
- Support Lighting Association Efforts to Help Suppliers Meet International Quality Standards -- *Planned activities (e.g., training workshop) to begin in late 2008*
- Technical Assistance in Financing CFL Programs -- *Partnership to be initiated with with an India utility, municipality, or state on scaling up CFL finance.*

Flagship 2. High Performance Buildings and Developments – Green Buildings Flagships in China

Mayors' Training Center: Municipal officials receive training twice a year

- BATF working with MOC and CABR to make existing Training Center more efficient, design high-performance building to be new Center, and update curriculum to include EE training.
- *Status:* New building design under discussion; curriculum development to begin in 2008.

Buildings Center of Excellence in Sustainable Design and Technology (COE):

- COE to provide display, exhibition, and training opportunities in cutting-edge building technologies, benchmarking techniques, and software tools.
- *Status:* Project underway but delayed by MOST decision that Agenda 21 building cannot house the COE.

Flagship 2. Green Buildings in China (Continued)

Olympic Village Near-Zero Energy Building

- BATF working with Olympic Village Developer to construct near-zero energy Welcome Center (to be converted into a Kindergarten after the Olympics).
- *Status:* Nearly completed.



APP BATF 06-01

Harmonization of Test Procedures

- **Objective**
 - Develop methodology for arriving at test procedures that measure product energy efficiency and/or energy consumption that are harmonized among the participant countries and could be adopted by other countries.
- **Project Activities**
 - Four working groups: motors, lighting, HVAC/refrigeration, electronics -- *All of the working groups have held separate project meetings*
 - Lighting working group includes Flagship Project on CFLs.
- **Project Outputs**
 - Potential greenhouse gas emission reductions of 1,200 MT CO₂ per year when 10 products are harmonized with 10% improvement across APP Partners.
- **Resources:** Australia US\$160K, Korea US\$120K/year, USA US\$1.7 million



HVAC-R WG, Gaithersburg, USA,
27-31 August 2007

Household refrigerator meeting, Tokyo,
Japan, 14 April 2008



APP BATF 06-02 Standby Power

- **Objectives**
 - Seek a common, cost-effective approach to address standby power for agreed product types by 2015, understanding that each APP Country may flexibly determine the application of the approach in their economy.
- **Project Activities**
 - Gather data for a common set of products and compile a consistent set of standby measurements on which to base sound policies
 - *Partners have agreed on a basket of common products and a consistent measurement approach, and an initial round of data collection was completed in six countries.*
 - *An APP Early Data Report on first round of data was completed.*
 - *The next round of data collection will be completed by August 2008.*
 - Standby Project meeting and **IEA/BEE International Standby Power Conference**, Habitat Centre, New Delhi, 1-3 April 2008
- **Resources:** Australia AU\$1.86 million, USA US\$250K, Korea US\$45K/yr, Other partner countries and organizations AU\$850K in-kind support

APP BATF 06-03 Market Transformation

• **Objective**

- Facilitate penetration of energy-efficient appliances into domestic markets of APP member countries.

• **Project Activities**

- Final draft of Handbook for Good Practices in Market Transformation completed. Handbook will be available on APP website, and its essence disseminated at related events (e.g., G8 Summit, IEA, APEC).
- Workshops on Government Procurement Best Practices (July 2007, February 2008) -- *Technical and training materials under development for Federal/state EE purchasing.*
- Support for Implementation of Indian EE Endorsement Labeling Program -- *First two labels (TVs and set-top boxes) expected June 2008.*
- Pilot US-China EE Endorsement Labeling Program
- *NEW: Mitigating Climate Change via Implementation of India's Standards and Labeling Program -- Activities began January 2008, impact assessment methodology under development. Preparation of Study Design for Identification of Market Transformation Strategies to Support S&L (Refrigerators, A/Cs and Consumer Electronics) is underway.*

- **Resources:** USA US\$1.3 million, Japan US\$43,500, Korea US\$25,000/yr

APP BATF 06-04 Building Certification

- **Objectives**

- Study experience with building labeling and establish technical approaches and incentive policies appropriate to each country.
- Establish continuous monitoring of energy performance.

- **Project Activities**

- Building Certification: China compiled APP country building certification reports, distributed report at Green Building Conference in Beijing (2 April 2008)
 - Next steps: Pilot projects on building energy labeling, training program in China on Technical Guideline for Building Energy Labeling.
- Share US Experiences on Data and Benchmarking with China
 - *April 2008: USEPA and China's Ministry of Housing and Urban-Rural Construction signed Statement of Intent for technical support to MHURC's building certification program.*
 - *May 2008: joint workshop on Energy Star benchmarking methodology*
- Office Operational Building Energy Rating (OOBER)

- **Resources:** USA US\$625K, Korea US\$20K/yr

APP BATF 06-05 Improvements to Existing Buildings

• Objectives

- Establish continuous monitoring of energy performance in commercial buildings.
- Increase awareness of low-cost/no-cost measures as cost-effective means to improving energy performance in commercial buildings.

• Project Activities

- Training Workshops and Pilot Projects on Energy Management and Low-Cost EE -- *Completed in India and China, more to come. USEPA also launched Chinese language eeBuildings Energy Performance Monitoring Tool.*
- Framework Screening Tool for Evaluating Potential for Retrofits -- *Planned 2008.*
- Retrofit Existing Building Chillers in India -- *Financial analysis tool launched spring 2008, full project implementation expected to begin July 2008.*
- Develop Guide to Retro-commissioning of Existing Buildings -- *APP review draft ready.*
- Energy Efficiency Upgrades (low energy high-rise project) -- *International extension planned June 2008.*
- *NEW:* The Urban Climate Project in India -- *Tool development, workshops, training underway.*
- *NEW:* Australian-Indian Building Tune-ups
- *NEW:* National Energy Management Program in India

- **Resources:** USA \$3 million, Korea US\$40K/yr, Australia: In-kind

APP BATF 06-06 Building Codes

- **Objectives**
 - Compare building codes among APP countries.
 - Harmonize underlying technical evaluation and rating provisions to foster development of consistent codes.
- **Project Activities**
 - **Survey and Compare Building Energy Codes in APP Countries**
 - Code collection underway -- *analysis to follow*.
 - Established building simulation lab and post-graduate curriculum at CEPT University in India.
 - Trainings (and train the trainer workshops) in EnergyPlus building simulation program.
 - Helped develop guideline documents for Indian Energy Conservation Building Code.
 - Training of Indian researchers in WUFI program for heat and moisture migration.
 - Building simulation and technology demonstration at IT building project, New Delhi.
 - *Next: Building construction and materials surveys in India and China, establish database.*
 - **Establish or Improve Window Ratings and Labels**
 - Facilitated industry funding commitment of \$500K to CEPT to establish Energy Center.
 - Participated in development of insulating glass standards in China.
 - Training in THERM and WINDOW (energy simulation programs) in China and India.
 - Training for Chinese and Indian researchers on spectral data testing and analysis at LBNL (3/08).
 - *Next: Help CEPT establish Energy Center and test lab, translate THERM and WINDOW to Chinese and Korean.*
 - **Develop Scenarios for Increasing EE through Energy Codes**
 - Collection of policy documents underway -- *market surveys and comparative analysis to follow.*
- **Resources:** Australia \$475K, USA \$300K, Korea \$55K/yr

APP BATF 06-07 High Performance Buildings and Developments

• Objectives

- Identify high performance buildings and developments, maintain information on APP web portal.
- Create proven building designs for mass production and deployment, to increase the uptake of high-performance buildings in APP countries.

• Project Activities

- HPBAD database (Japan coordinating) -- *Planned for 2008*
- China Green Buildings Flagships
- Sponsor *SB08 -- 6th World Sustainable Buildings Conference* (Melbourne September 2008) and other conferences (India Continuing Professional Development Program and Sustainable Housing Communities Workshop)
- *NEW: High Performance Commercial Buildings in India -- TERI working to establish energy performance benchmarks through audits.*
- *NEW: Regional Energy Efficiency Centers in India*
- *NEW: Promotional Framework for Passive Design and Solar Energy Technologies in EE buildings*
- *NEW: Indian High Tech Buildings Initiative: Data Centers Pilot-- information gathering completed January 2008.*
- *NEW: China Building Energy Rating Tool*

- **Resources:** Australia AU\$500K, USA US\$1.75 million, Korea \$20K/yr, Japan in-kind



APP BATF 06-08 Utility Regulation and Incentives

- **Objectives**

- Document successful approaches for enhancing the incentives of utilities to invest in effective end use energy efficiency programs
- Ensure that utility companies shift a greater fraction of their considerable financial and technical resources to financing and implementation of energy efficiency in buildings

- **Project Activities**

- Identify lessons, good practices, and recommendations for utility regulation and incentives, and promotion of effective DSM programs -- *Detailed project plan to be circulated among APP partners.*
- Implement technical cooperation among APP countries to promote improvements in utility regulation, incentives, and programs -- *USEPA has identified potential partners in China*

- **Resources:** USA US\$505K, Australia US\$240K, Korea US\$25K/yr

APP BATF 06-09 Smart Systems

- **Objectives**

- Demonstrate the benefits of residential response infrastructure options to enhancing the economic efficiency of utility investments in energy services.
- Increase the market take-up of residential smart systems.

- **Project Activities**

- Review international smart systems and common business drivers.
- Develop and test standardized assessment framework and tools -- *Next: finalise negotiations with Australian and Indian industry partners, and submit full project proposal for funding.*

- **Resources:** Australia US\$205,000, Other project partners and participants US\$273,000.

APP BATF 06-10 Green Leases

- **Objectives**

- Increase the efficient energy management of commercial building operations by providing transparent legal options to overcome tenant-landlord split incentive problem.
- Increase uptake of energy-efficient building designs and appliances in participating countries through stimulating additional market demand.

- **Project Activities**

- Create country-tailored commercial office Green Lease legal templates.
- Demonstrate and promote through “champions” program.
- Analyze investment sector national impact of Green Leases.
- *Next: Finalize negotiations with Australian industry partner (ANZ Bank), submit full project proposal for funding.*

- **Resources:** Australia AU\$250,000

APP BATF 06-11 Commercial Financing

- **Objectives**
 - Facilitate increased private investment in building energy efficiency projects in APP countries.
 - Identify and share successful approaches to remove barriers to private financing of energy efficiency investment.
- **Project Activities**
 - India Market Assessment for Expanding Energy Efficiency Effectiveness in Public Sector Buildings -- *Data collection on energy consumption in public sector buildings has begun. Report of findings planned for December 2008.*
 - Continue working with APP member countries and World Bank to identify synergistic project opportunities.
 - Identify APP partners to implement joint projects with USA (e.g., performance contracting, incremental internal financing, manufacturer and vendor projects).
- **Resources:** USA \$100K

New BATF Activities for PIC endorsement

New Activities (Endorsed at BATF-4, November 2007)

- 5.9 Australian-Indian building tune-ups (Australia)
- 7.6 Promotional framework for passive design and solar energy technologies in energy-efficient buildings: transferred from REDG TF (India)
- 7.7 Indian High Tech Buildings Initiative: Data Centers Pilot (USA)
- 7.8 China Building Energy Rating Tool (Australia)

Other BATF Business

- New BATF project numbering framework: To help keep track of growing number of activities
- BATF Reporting Guidelines: To ensure that Project Leads are informed about all sub-project activities.
- Potential discussion paper on developing performance measures to measure the results of the BATF projects
- BATF developed priority project ideas under the BATF Action Plan to submit for U.S. Department of State funding in China.

Next Steps

- 5th BATF meeting in Seoul on 23-24 June, 2008
 - Collaboration across TFs and with other international organizations: Invitations sent to REDG TF & REEEP EEC chair, IEA representative.
- Update BATF Action Plans

THANK YOU FROM BATF !



ASIA PACIFIC PARTNERSHIP ON CLEAN DEVELOPMENT & CLIMATE
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