

Appendix A

Final Project Status Report

PROJECT STATUS REPORT FORM

Project Number: BATF 06-01 and 06-02	Task Force: Buildings and Appliances
Title of Project: Harmonization of Test Procedures - Electric Motors and Motor Systems	
Lead Partner Country: Australia/China	
Participating Partner Countries and Organizations: Australia, China, Korea (Japan, India, US possible participants)	
Project Manager Information Name: Melanie Slade Organization: Department of the Environment, Water, Heritage and the Arts Address: DEWHA GPO Box 787 Canberra ACT 2601 Australia Phone: +61 2 6274 1586 Fax: +61 2 6275 9190 Email: melanie.slade@environment.gov.au	
Project Start Date: July 2007	Date of Project Status Update: December 2010
Milestones: Three project workshops have been held so far - 10 June 2007 (Beijing), 10 December 2007 (Beijing) and 6 February 2009 (Sydney) to further progress this project. A motor testing round robin between Germany, Australia, China and Korea is in progress. Unexpected delays mean that completion is now likely to be mid 2010. 27 motors have been purchased in China and have been tested in Shanghai. Testing is completed and the test data is being finalised.	
Actions Since Last Update: <ul style="list-style-type: none"> • A testing round robin of electric motors between Germany, Australia, China and Korea is underway and expected to be completed in 2010. The aim of this round robin is to provide input to the IEC (International Electrotechnical Commission – an international standards body) and APP partners on the new IEC test method standard, IEC 60034-2-1. The motors have already been tested in Australia and China and the results sent to the IEC. The motors will be sent from China to Korea in the near future. There have been some unexpected delays with export clearances from China. • 27 industrial motors have been purchased in China and have been tested at the Shanghai Electrical Apparatus Research Institute (SEARI) test laboratory. These motors were tested to three test methods listed in the new IEC test method standard to enable APP partners to assess the difference between the three test methods and help inform policy decisions. The data from these tests is currently being finalised. • At the APP workshop held in Sydney in February 2009, participants shared policy and program initiatives for improving energy efficiency of motor systems within their countries. It was agreed that participants would set up an online forum to share information about recent international developments in this area and work towards developing guides that could be taken to the international standards bodies to further develop and publish. This proposal has been delayed but 	

may proceed later in 2010.

- Workshop participants also asked Australia project members to provide a written update would be provided to the EEMODS 09 conference (Energy Efficiency in Motor Driven Systems) held in September 2009 in Nantes, France. This update was to include achievements to date and the background to the APP BATF.
<http://www1.cetim.fr/eemods09/pages/programme/063-Hatch-final.pdf>
- It is expected that these two sub projects will need to work closely with other international projects, such as the IEC round robin and the new International Energy Agency (IEA) 4E Electric Motor Systems Annex (EMSA). Australia hopes to discuss possibilities for formal collaboration with IEA 4E EMSA delegates in March 2010.

In general, APP partners are working towards:

- Creating a “Government” forum to facilitate a dialogue between government officials responsible for or interested in sharing experience and data of using a particular testing methodology and performance requirements.
- Creating a “Technical Exchange” forum where experts can oversight comparative testing (a so called “round robin” testing of motors in each of the participating APP countries comparing these two commonly used test methodologies). This will lead to information concerning the accuracy and repeatability of the testing procedures and will inform policy makers of the benefits of using each of the testing methods.
- Facilitating APP member countries engaging with:
 - International Electrotechnical Commission Working Groups to ensure outcomes of the standard development process are suitable for use in their countries; and
 - Any other regional groups working in this field (for example, the European Commission Eco-design of Energy using Products Directive (EuP) process for motors).
- Creating a forum for dialogue between governments to share experience of defining the benefits and barriers to legislating for improved efficiency for motor driven systems.
- Creating a forum for technical exchange which would start with comparing all the test data that is currently available and creating a prioritised list of products that could practically be the subject of energy efficiency performance requirements; and for priority aspects or entire motor systems, each of the participating APP countries could share experience on working elements and liaise with other regional groups undertaking similar tasks (for example, the European Commission Eco-design of Energy using Products Directive (EuP) process).

Date Completed: December 2010

Deliverables Since Last Update: Australia’s results from the motor testing round robin have been sent to the IEC. The motors have been tested in China and will be sent to Korea in the near future.

27 motors have been purchased in China and have been delivered to SEARI. Testing is now complete and the results will be finalised shortly.

Date Completed: December 2010.

Next Steps:

- Complete the motor testing round robin which is currently underway between Germany, Australia, China and Korea and provide the results to the IEC round robin.
- Finalise the results from testing the 27 motors using three test methods in the new international test method standard, IEC 60034-2-1, at the SEARI test laboratory in Shanghai, China.
- Set up an online forum for APP partners to share information about recent international motor system energy efficiency developments and work towards developing guides that could be taken to the international standards bodies to further develop and publish.
- Explore the possibility of collaboration between these APP BATF sub projects and the IEA 4E Electric Motor Systems Annex.

Proposed Project End Date: June 2011**Project Already Complete:** Yes No**Other Information: [Move to IPEEC, SEAD/IEA 4E](#)**

Up to AUD 1,300, 000 from the Australian Government
In-kind and other support to be confirmed from other APP partners.

PROJECT STATUS REPORT FORM

Project Number: BATF -06-03	Task Force: Buildings and Appliances						
Title of Project: Harmonization of Testing Procedures – Facilitation of Regional Phase-out of Inefficient Lamps Sub-Project							
Lead Partner Country: Australia, Co-lead, Korea							
Participating Partner Countries and Organizations: Australia and Korea							
Project Location (Country, State/Province, City):							
Project Manager Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; padding: 2px 5px;">Name: Melanie Slade and David Boughey</td> <td style="width: 50%; padding: 2px 5px;">Phone: +61 6274 1586</td> </tr> <tr> <td style="padding: 2px 5px;">Organization: Department of the Environment, Water, Heritage and the Arts</td> <td style="padding: 2px 5px;">Fax: +61 6274 9190</td> </tr> <tr> <td style="padding: 2px 5px;">Address: GPO Box 787, Canberra ACT 2601, Australia</td> <td style="padding: 2px 5px;">Email: Melanie.Slade@environment.gov.au David.Boughey@environment.gov.au</td> </tr> </table>		Name: Melanie Slade and David Boughey	Phone: +61 6274 1586	Organization: Department of the Environment, Water, Heritage and the Arts	Fax: +61 6274 9190	Address: GPO Box 787, Canberra ACT 2601, Australia	Email: Melanie.Slade@environment.gov.au David.Boughey@environment.gov.au
Name: Melanie Slade and David Boughey	Phone: +61 6274 1586						
Organization: Department of the Environment, Water, Heritage and the Arts	Fax: +61 6274 9190						
Address: GPO Box 787, Canberra ACT 2601, Australia	Email: Melanie.Slade@environment.gov.au David.Boughey@environment.gov.au						
Project Start Date: July 2007	Date of Project Status Update: December 2010						
Actions Since Last Update: <p><i>Forum to Facilitate Asian Participation and Influence in IEC Standards Development for Lighting</i> (co-hosted with USAID’s ECOAsia) was held in Hong Kong 28-29 October 2009. The Forum was designed to encourage greater dialogue between countries in the Asian region on national and international standards development and to increase the participation of Asian countries in the IEC standards development process. Representatives attended from Australia, China, India, Indonesia, Philippines, Sri Lanka, Thailand, the US, and Vietnam.</p> <p>The forum developed a ten point plan for further action in this area, a key feature being the establishment of a regional network to be known as LITES Asia - a regulator focused organisation which aims to promote regional co-operation on the development of lighting standards and facilitate greater involvement of Asian countries in the IEC standards process, which should result in IEC lighting standards that are more appropriate for the Asian region.</p> <p>Further development of test methodology and standards for performance testing of reflector incandescent lighting.</p>							

Deliverables Since Last Update:

Round robin series of testing of incandescent reflector lamps involving industry and independent test labs in Australia, China and Europe aimed at assessing options for the test methodology for performance testing of reflector lamps was concluded. Results of round robin are currently being used to prepare revisions to test standards. The draft revised alternative test is now being applied to a large sample of lamps to check for consistency.

Hong Kong forum and establishment of LITES Asia (see above), including preparation of a website.

Support for APP countries to attend the Hong Kong October forum.

Date Completed:**Milestones Reached:**

- Data has been collated to construct a coherent and achievable guide for phase-out action
- Roadmap for early phase-out action has been drafted.
- LITES Asia represents an important step in the formation of communities of practice to empower countries considering phase-out as a policy option to take early action and enabling them to engage with international networks of support.

Next Steps:

Finalise revisions to reflector lamp test standards. The revised alternative test is now being applied to a large sample of lamps to check for consistency.

Release of LITES Asia website and organisation of first LITES Asia meeting in June 2010 in Beijing. Continued support for APP country participation in relevant IEC meetings.

Finalisation and distribution of Phase-out Guide to stakeholders in Asia region and beyond.

Proposed Project End Date: January 2011

Project Already Complete: Yes No

Other Information: Move to IPEEC SEAD

Note that some activities in this project are closely related to and combined with activities in the joint U.S.-Australia project entitled “Harmonization of Testing Procedures and Quality Assurance – Compact Fluorescent Lamps Sub-Project Plan”.

Deliverables Since Last Update:

- **All members agreed to analyse the following topics of Air Conditioning sector profile**
 - ✓ Define products and subcategories (classes)
 - ✓ Energy programs for air-conditioner in APP countries
 - ✓ Energy Efficiency analysis for AC products sold in each countries and Survey manufacturers and/or local trade associations regarding number of products sold each year.
 - ✓ Discuss the methodology to evaluate and to estimate the energy efficiency and energy consumption with the summarized market data of each member

- **All members agreed to have a round-robin test for the comparative performance with an existing test procedure as follows ;**
 - ✓ Test sample : Windows type heat-pump
 - ✓ Test method
 - ISO 5151, T1 and H1
 - Cooling & Heating Capacity test including uncertainty
 - Air-enthalpy and calorimeter
 - ✓ Testing Labs
 - China – Intertek Guangzhou
 - Korea – Korea testing lab

- **All members discussed the items arising from ISO meeting**
 - ✓ Discussion for test methods need to reflect actual usage to allow evaluation of energy savings (correct ranking in actual use is also important for labels)
 - All members agreed to compromise the methodology of non-operational energy consumption introduced by Australian and Japanese delegation in ISO WG meeting.
 - All members agreed the APF for AC/HP proposed by Japan, where are a lot of things to be compromised among APP countries.

Date Completed: 1 December 2010

Milestones Reached:

- Developing a new harmonization methodology for air-conditioner and heatpump, as well as testing and compliance of product performance including actual using condition of energy consumption such as APF(Annual Performance Factor).
- Circulate “Best practices with methodology with harmonization of test procedures” to standards-setting agency. Test procedures and rules may be published as formal standards by an international agency (ISO).
- All APP members agreed to analyse the energy efficiency and energy consumption of air-conditioner in each member countries, and the following actions should be required ;
 - ✓ To analyze the energy efficiency of air-conditioner each members should collect the market data of their economies with a given categories and a table, and submit them to a project leader before the next meeting.
 - ✓ For evaluating and estimating the energy efficiency of air-conditioners, they agreed to discuss the methodology to evaluate and estimate the energy efficiency and energy consumption with the market data of each member during the next meeting.
- All members agreed to have a round-robin test for the comparative performance with an existing test procedure
- It is important to ensure cooperation between ISO and APP on AC/HP in order to expand AC/HP with energy saving technology to APP countries

Next Steps:

- The next project meeting is close to ISO meeting scheduled in Las Vegas, US, 2011.
- Support a new test method of reflecting of actual use with harmonizing APP countries when ISO develop
- Collaboration with APP partners in ISO CD (Committee Stage) stages

Proposed Project End Date: *31 Oct 2012***Project Already Complete:** Yes No**Other Information:** **Move to IPEEC, SEAD**

PROJECT STATUS REPORT FORM

Project Number: BATF-06-05	Task Force: Buildings and Appliances						
Title of Project: Harmonization of Test Procedures for Household Refrigerators							
Lead Partner Country: Japan * Project Leader: Mr. Lloyd HARRINGTON (AUSTRALIA) * Sub-Leader: Mr. Hiroshi SASAKI (JAPAN)							
Participating Partner Countries and Organizations: AUS/NZ,China,India,Korea,USA,Canada							
Project Manager Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; padding: 2px;">Name: Kiyoshi Saito</td> <td style="width: 50%; padding: 2px;">Phone: +81-3-3556-5883, 5887</td> </tr> <tr> <td style="padding: 2px;">Organization: The Japan Electrical Manufacturers' Association (JEMA)</td> <td style="padding: 2px;">Fax: +81-3-3556-5891</td> </tr> <tr> <td style="padding: 2px;">Address: 17-4, Ichiban-cho, Chiyoda-ku, Tokyo, Japan</td> <td style="padding: 2px;">Email:kiyoshi_saito@jema-net.or.jp</td> </tr> </table>		Name: Kiyoshi Saito	Phone: +81-3-3556-5883, 5887	Organization: The Japan Electrical Manufacturers' Association (JEMA)	Fax: +81-3-3556-5891	Address: 17-4, Ichiban-cho, Chiyoda-ku, Tokyo, Japan	Email: kiyoshi_saito@jema-net.or.jp
Name: Kiyoshi Saito	Phone: +81-3-3556-5883, 5887						
Organization: The Japan Electrical Manufacturers' Association (JEMA)	Fax: +81-3-3556-5891						
Address: 17-4, Ichiban-cho, Chiyoda-ku, Tokyo, Japan	Email: kiyoshi_saito@jema-net.or.jp						
Project Start Date: January, 2008 First Meeting Date: 14th April, 2008	Date of Project Status Update: December, 2010						
Actions Since Last Update: PJ Start Date: January, 2008 Proposed PJ End Date: end of 2010 - Formal 1st MTG (Tokyo) : 14th Apr, 2008 - Formal 2nd MTG (Sydney) : 29th-30th Sep, 2008 - Adohoc MTG (Munich) : 3rd Nov, 2008 - Formal 3rd MTG (KISTA, Stockholm) : 6th July, 2009 *Other sub meeting is properly held - Formal 4th MTG (Kyoto) : 7th Dec, 2009 *JEMA hosted the APP & IEC meeting are held in Kyoto, Japan - APP BATF-06-05 Harmonization of Test Procedures for Household Refrigerators Project meeting - IEC SC59M Performance of electrical household and similar cooling and freezing appliances							

Deliverables Since Last Update:Formal 3rd MTG (KISTA, Stockholm) : 6th July, 2009

- a) Making of comparison table regarding energy efficiency regulation of household refrigerator in APP countries.
 - current energy efficiency labeling and standard
 - test method of energy consumption and internal Volume
 - *It updates based on a recent change for each countries.
- b) Concept for a “New energy consumption measurement test method”
 - The APP member decided a new test method - to provide input on options for simulated door opening and food loads to more closely align with actual use - based on the proposal of JP with AU/NZ
 - *It was named “New concept for global IEC refrigerator energy consumption test procedure”, and it proposed to IEC SC59M
 - note : The proposal of US concerning the volume measure based on WYSIWIG
(what you see is what you get approach) is included in the energy consumption test procedure
- c) Prepare a report estimating the total electricity consumption of Household refrigerators and evaluation of the energy saving potential for residential sector in JP, KR, AU/NZ market
 - JP proposed “The estimation method for the total electricity consumption and evaluation of the energy saving potential of household refrigerator”, and has circulated it to APP members
 - JP, AU/NZ and KR were evaluated regarding the total electricity consumption of household refrigerators and the energy saving potential for residential sector
 - The APP member agreed that the draft report would be reviewed by JP, KR and AU/NZ prior to more general circulation to APP members

Formal 4th MTG (Kyoto) : 7th Dec, 2009

- a) Participants 16 (AUS, JP, KR, NZ, USA)
- b) Confirmation of proposal items to IEC TC59 WG12/SC59M
 - JP together with AU and NZ propose new energy consumption measurement test method, support by APP members
 - APP member propose “SC59M management”
 - *SC59 organization structure and work item proposal
- c) Estimating the total electricity consumption of Household refrigerators and evaluation of the energy saving
 - To continue the work (Expansion of report for All member countries in APP)
 - Collaboration, Information exchange other work – IEA 4E Mapping & Benchmarking ANNEX

Date Completed: December, 2010

Milestones Reached:

Project Goal

- ✓ Developing a new harmonization methodology and/or categories regarding rationale of classification for different cooling method for household refrigerator, as well as testing and compliance of product performance including actual using condition of energy consumption.
- ✓ Circulate “Best practices with methodology with harmonization of test procedures” to standards-setting agency in APP member countries or by an international agency (IEC). Test procedures and rules may be published as formal standards by an economy’s standards-setting agency in APP member countries or by an international agency (IEC).
 - To propose IEC 62553 modification
 - note1: ISO15502 has withdrawn and has been replaced by IEC 62552, Ed 1.0 (2007-12), Household refrigerating appliances - Characteristics and test methods. (*IEC TC59/WG12)
 - note2: IEC approves the establishment of SC59M - Performance of electrical household and similar cooling and freezing appliances. (*The work will move from TC59/WG12 to SC59M)
- ✓ Developing the “The estimation method for the total electricity consumption and identify the energy saving potential of household refrigerator”.
- ✓ Evaluated regarding the total electricity consumption of household refrigerators and the energy saving potential for residential sector in APP Member Countries.

PJ milestones(tentative schedule)

	2008 (y)				2009 (y)				2010 (y)				2011 (y)
	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	⇒
APP BATF		BATF-5 (Seoul)	BATF-6 (Melbourne)			BATF-7 (New Delhi)		BATF-8 (Tokyo)	BATF-9 (Vancouver)				
BATF06-05 Household Refrigerators PJ		Formal 1st Meeting Tokyo 14th, Apr	Formal 2nd Meeting Sydney 29/30th, Sep	Adhoc Meeting Milan 3rd, Nov			Formal 3rd Meeting Kista 6th, Jul	Formal 4th Meeting Kyoto 7th, Dec		Formal 5th Meeting Brazil 3rd, May			
							*To propose "New energy consumption measurement test method" from APP						*Development for New IEC
EC		TC 59/WG 12 Tokyo	TC 59/WG 12 Sydney	TC 59/WG 12 Milan			TC 59/WG 12 Kista	SC 59M WG 12 Kyoto		SC 59M WG 12 Brazil			
EA			● G8 Hokkaido Summit -Energy efficiency policy Recommendations										
		● Meeting Energy Efficiency Goals -Enhancing Compliance, Monitoring and Evaluation				● International Standard to Promote Energy efficiency & Reduce Carbon Emissions				● 4E ANNEX -Mapping & Benchmarking			
Others							● EEDAL 2009					● APEC 2010	

Next Steps:

Next meeting (Formal 6th Meeting)

- 16 May, 2011 Brussel (location is undecided) *The day before of IEC SC59M

Proposed Project End Date: end of 2011

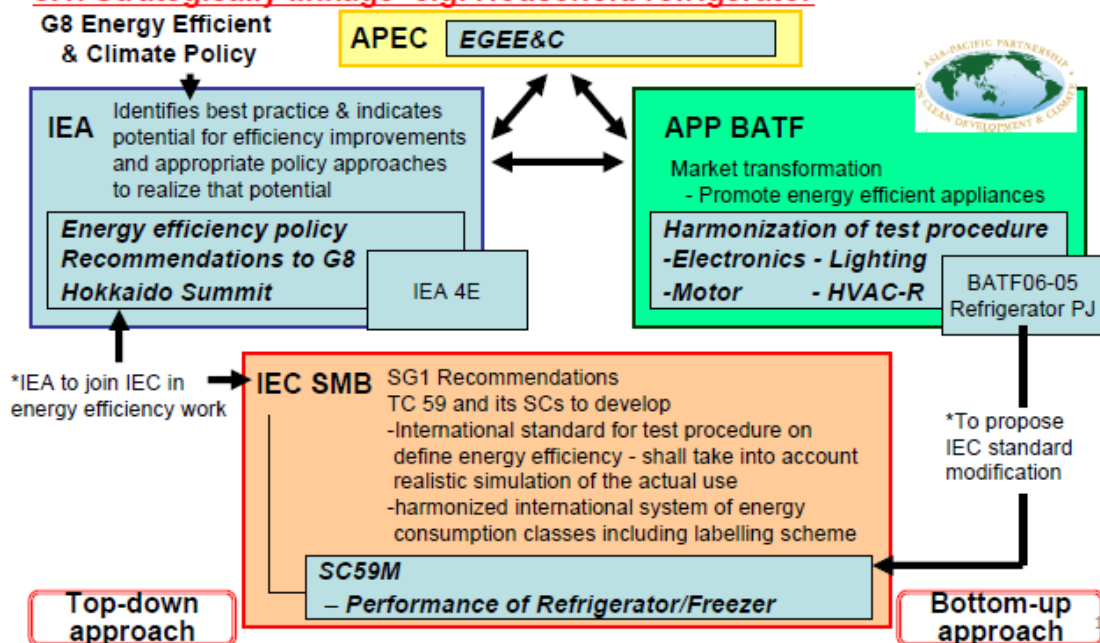
Project Already Complete: Yes No

Other Information: Move to IPEEC, SEAD

- ✓ Planning for Regional Workshop (In Future)
 - To planning holding the workshop in China or India in this year (2010y).
 - *It explains importance and the status of the project
 - *Participation in the project is pressed as much as possible
(Need to make sure that both aspects are covered – APP and IEC meeting.)
- ✓ Need to follow up other Climate Policy: Energy efficiency policy recommendations to G8 Hokkaido Summit from IEA
 - Test standards and measurement protocol
 - Recommendation*
 - a) Governments should:
 - i) Review energy measurement standards currently used, to determine whether they are consistent with national policy requirements; and
 - ii) support the development and use of international measurement standards, where appropriate,
in order to assist performance comparison and benchmarking for traded products while also reducing compliance costs.

- ✓ Political linkage for Energy efficient appliances-Harmonization of test procedure

3.1. Strategically linkage e.g. Household refrigerator



PROJECT STATUS REPORT FORM

Project Number: BATF-06-06	Task Force: Buildings and Appliances
Title of Project: Harmonization of Test Procedures – Electronic Products workgroup	
Lead Partner Country: USA; Co-Lead: Japan	
Participating Partner Countries and Organizations: Australia, China, India, Japan, Korea, USA	
Location of Project: <i>Country, State/Province/City</i>	
Project Manager Information: Name: Chris Kent Phone : 202-343-9046 Organization: US EPA Fax: Address: 1200 Penn Ave, Washington, DC 20460 Email: kent.christopher@epa.gov	
Project Start Date: 1 Nov 2006	Date of Project Status Update: Feb 10,. 2011
Actions Since Last Update: <i>Please provide a brief description of the Activity undertaken.</i> While APP activity for this project was limited, test procedure harmonization continues to be coordinated through ENERGY STAR, IEA 4E, USA-China Ten Year Agreement on Energy Efficiency, and other efforts.	
Deliverables Since Last Update: <i>Please list the outputs delivered by this project.</i> Not applicable.	
Milestones Reached Over Lifetime of Project: <i>Please list the major milestones attained with timing (month/year).</i> Not applicable.	
Next Steps:	
Expected Project End Date:	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Information: Concluded	

PROJECT STATUS REPORT FORM

Project Number: BATF-06-07	Task Force: Buildings and Appliances
Title of Project: Alignment of National Standby Power Approaches	
Lead Partner Country: Australia and Korea	
Participating Partner Countries and Organizations: United States, China, India, Japan	
Location of Project: <i>Country, State/Province/City</i>	
Project Manager Information:	
Name: Allan Booth Organization: Department of Climate Change and Energy Efficiency Address: GPO Box 854, Canberra ACT 2601, Australia Phone : +61-2-6159-3314 Fax: +61-2-6159-3887 Email: energyrating@climatechange.gov.au	
Project Start Date: 1 Nov 2006	Date of Project Status Update: Feb 10, 2011
Actions Since Last Update:	
<ol style="list-style-type: none"> 1. A joint APP/APEC three day conference was held from 19-21 October 2010 in Tokyo, Japan that brought together industry and government policy makers in order to gain a broader understanding of the possible approaches to reduce energy consumption of standby power. 2. Edition 8 of the LoadDown newsletter was published on the Energy Rating website in January 2011. This communication is designed to provide an update of progress on the alignment of standby power. It also provides details of data collection over time, trends, background and highlighting particular problem products and profiles of country standby programs. 3. Data collection will take place in Australia for up to 480 products. This will include up to 220 products from the Basket of Product, 120 Home Entertainment products, 60 Computer products and 80 small appliances 	
Deliverables Since Last Update:	
<ol style="list-style-type: none"> 1. Publication of the 8th edition of the Load Down newsletter is on the Energy Rating website (January 2011) and notification was sent out to all delegates when newsletter was published. 2. Publication of the Conference Proceedings, Technology Report and Policy Alignment Options Report to the conference website. 	
Milestones Reached Over Lifetime of Project:	
<p>The project would involve four stages:</p> <ol style="list-style-type: none"> 1. Stage 1 (2007) – publish an action plan laying out an agreed common approach to achieve project goals 2. Stage 2 (2008-10) – maintain an annual reporting function measuring the standby of new products entering Partner marketplaces 3. Stage 3 (2011-13) – review progress against performance levels 4. Stage 4 (2014-15)—report on compliance with project goals 	
Next Steps:	
Expected Project End Date: 2013	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Other Information: Move to IEA 4E

Edition 8, and all past issues, of the Load Down newsletter can be found at www.energyrating.gov.au/standbydata/index.html#newsletter

All conference presentations and documents can be found at www.energyrating.gov.au/standbydata/apecstandby2010.html.

The APP standby power project work will migrate to the IEA 4E Standby Power Annex. standby.iea-4e.org

PROJECT STATUS REPORT FORM

Project Number: BATF-06-08	Task Force: Buildings and Appliances
Title of Project: Market Transformation	
Lead Partner Country: Japan	Co-lead: China
Participating Partner Countries and Organizations: Australia, Canada, India, Korea, U.S.A.	
Project Manager Information	
Name: Yasuhiro Kusaka	Phone: +81-3-3501-6944
Organization: METI	Fax: +81-3-3580-2769
Address: 1-3-1 Kasumigaseki Chiyoda Tokyo Japan	Email: kusaka-yasuhiro@meti.go.jp
Project Start Date: September 2006	Date of Project Status Update: March 2009
Actions Since Last Update:	
2008	
Oct. Received description Australia for the handbook	
2009	
Feb. Updated description of Korea and Japan for the handbook The 3rd Project Workshop in Tokyo	
March Update 1st Edition of “Good Practices Handbook” and the brochure “Essence of the Handbook”	
Deliverables Since Last Update:	
Date Completed: As of March 2009	
Milestones Reached:	
2009	
Feb. Held the 2nd workshop of the project in Tokyo	
Next Steps:	
2009	
April Complete revise 2nd edition of “Good Practices Handbook” and deliver it to BATF member countries.	
Proposed Project End Date: Oct 2009	Project Already Complete: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Other Information: Completed	

PROJECT STATUS REPORT FORM

Project Number: BATF-06-09	Task Force: Buildings and Appliances						
Title of Project: Workshop on Government Procurement Best Practices							
Lead Partner Country: USA							
Participating Partner Countries and Organizations: India, China							
Project Location (Country, State/Province, City):							
Project Manager Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Name: Susan Wickwire</td> <td style="width: 50%; border: none;">Phone: +1-202-343-9155</td> </tr> <tr> <td style="border: none;">Organization: USEPA</td> <td style="border: none;">Fax: +1-202-343-2337</td> </tr> <tr> <td style="border: none;">Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460</td> <td style="border: none;">Email: wickwire.susan@epa.gov</td> </tr> </table>		Name: Susan Wickwire	Phone: +1-202-343-9155	Organization: USEPA	Fax: +1-202-343-2337	Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460	Email: wickwire.susan@epa.gov
Name: Susan Wickwire	Phone: +1-202-343-9155						
Organization: USEPA	Fax: +1-202-343-2337						
Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460	Email: wickwire.susan@epa.gov						
Project Start Date: July 2007	Date of Project Status Update: February 2010						
Actions Since Last Update: None. The Contract Task Order and other financial instruments that supported this work have finished.							
Deliverables Since Last Update: None. Date Completed: As of July 31, 2008							
Milestones Reached:							
Next Steps: <ul style="list-style-type: none"> • To be determined. 							
Proposed Project End Date: 2009	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Other Information: Concluded							

PROJECT STATUS REPORT FORM

Project Number: BATF- 06-10	Task Force: Buildings and Appliances
Title of Project: Support for implementation of an energy efficiency endorsement labelling program for India	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: India	
Project Location (Country, State/Province, City):	
Project Manager Information Name: Susan Wickwire Organization: USEPA Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460 Phone: +1-202-343-9155 Fax: +1-202-343-2337 Email: wickwire.susan@epa.gov	
Project Start Date: July 2007	Date of Project Status Update: February 2010
Actions Since Last Update: None. The Contract Task Order and other financial instruments that supported this work have finished.	
Deliverables Since Last Update: None. Date Completed: As of July 31, 2008	
Milestones Reached:	
Next Steps: <ul style="list-style-type: none"> • To be determined. 	
Proposed Project End Date: 2009	Project Already Complete : <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Information: Concluded	

PROJECT STATUS REPORT FORM

Project Number: BATF-06-12	Task Force: Buildings and Appliances
Title of Project: Comparison of policy and management systems for building certification	
Lead Partner Country: China	
Participating Partner Countries and Organizations: USA	
Project Location (Country, State/Province, City): China, Beijing	
Project Manager Information Name: Zhang Fulin Organization: Ministry of Housing and Urban-Rural Development of the People's Republic of China (MOHURD) Address: No. 9, Sanlihe Street, Haidian District, Beijing, P. R. China Phone: 86 10-58934548 Fax: 86-10-58934530 Email: zhangfl@mail.cin.gov.cn Please copy to: zsc2062198@yahoo.com.cn	
Project Start Date: Nov., 2006	Date of Project Status Update: March 2010
Actions Since Last Update: <ul style="list-style-type: none"> ● China has set up the China Green building research Center, which is an organization focused on green building research and certification ● China keep on certified residential building and public building all nationwide, with the guide of <Evaluation standard for green building > ● For different kinds of building, like facility building, hospitals, industry building, China is now working on different certification standard. 	
Deliverables Since Last Update: < Evaluation standard for green industry building > Date Completed:	
Milestones Reached:	
Next Steps:	
Proposed Project End Date: 2010, June	Project Already Complete: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Other Information: Completed As we already compare the policy and management system for the building certification in the participating countries, BUT the draft report is only in Chinese and there is no funding for translating the report. So If it is OK, The project leader would like to propose this project as completed or suspend based on the regulation of the APP.	

PROJECT STATUS REPORT FORM

Project Number: BATF-06-13	Task Force: Buildings and Appliances
Title of Project: Pilot projects on building energy labeling	
Lead Partner Country: China	
Participating Partner Countries and Organizations: US	
Project Location (Country, State/Province, City): China	
Project Manager Information Name: Zhang Fulin Organization: Ministry of Housing and Urban-Rural Development of the People's Republic of China (MOHURD) Address: No. 9, Sanlihe Street, Haidian District, Beijing, P. R. China Phone: 86 10-58934548 Fax: 86-10-58934530 Email: zhangfl@mail.cin.gov.cn Please copy to: zsc2062198@yahoo.com.cn	
Project Start Date: Nov, 2006	Date of Project Status Update: March 2010
Actions Since Last Update: The team had finished three evaluation & certification report for buildings in China, which are (1) China petroleum Building- building certification result: 3 star (2) Hebei Xinji Huafang residential district. building certification result: 3 star (3) 11# Beijing Xinmafang Residential community . building certification result: 3 star	
Deliverables Since Last Update: Date Completed: Already Completed	
Milestones Reached:	
Next Steps:	
Proposed Project End Date: June,2010	Project Already Complete: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Other Information: Completed	

PROJECT STATUS REPORT FORM

Project Number: BATF-06-14	Task Force: Buildings and Appliances
Title of Project: Establish information exchange network for continuous revision and improvement	
Lead Partner Country: China	
Participating Partner Countries and Organizations: US	
Project Location (Country, State/Province, City): China	
Project Manager Information Name: Zhang Fulin Organization: Ministry of Housing and Urban-Rural Development of the People's Republic of China (MOHURD) Address: No. 9, Sanlihe Street, Haidian District, Beijing, P. R. China Phone: 86 10-58934548 Fax: 86-10-58934530 Email: zhangfl@mail.cin.gov.cn Please copy to: zsc2062198@yahoo.com.cn	
Project Start Date: Nov, 2006	Date of Project Status Update: October, 2009
Actions Since Last Update: None.	
Deliverables Since Last Update:	
Date Completed:	
Milestones Reached:	
Next Steps:	
Proposed Project End Date: June,2010	Project Already Complete: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Other Information: Cancelled the major work of this project is included in other projects , so the project leader would like to call for cancel or suspend of this project.	

PROJECT STATUS REPORT FORM

Project Number: BATF-06-15	Task Force: Buildings and Appliances
Title of Project: Provide green building guides and related training materials to APP countries	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: China	
Project Location (Country, State/Province, City):	
Project Manager Information Name: Zhang Fulin Organization: Ministry of Housing and Urban-Rural Development of the People's Republic of China (MOHURD) Address: No. 9, Sanlihe Street, Haidian District, Beijing, P. R. China Phone: 86 10-58934548 Fax: 86-10-58934530 Email: zhangfl@mail.cin.gov.cn Please copy to: zsc2062198@yahoo.com.cn	
Project Start Date: Nov, 2006	Date of Project Status Update: October, 2009
Actions Since Last Update: None.	
Deliverables Since Last Update:	
Date Completed:	
Milestones Reached:	
Next Steps:	
Proposed Project End Date: June,2010	Project Already Complete: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Other Information : Cancelled	

PROJECT STATUS REPORT FORM

Project Number: BATF-06-16	Task Force: Buildings and Appliances
Title of Project: Share U.S. Experiences on Building Data and Benchmarking	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: China	
Project Location (Country, State/Province, City):	
Project Manager Information Name: Carole Cook Phone: +1-202-343-9334 Organization: USEPA Fax: +1-202-343-2342 Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460 Email: cook.carole@epa.gov	
Project Start Date: April 2007	Date of Project Status Update: March 31, 2009
Actions Since Last Update: <ul style="list-style-type: none"> • None. The Contract Task Order and other financial instruments that supported this work have finished. 	
Deliverables Since Last Update: <ul style="list-style-type: none"> • None. 	
Date Completed:	
Milestones Reached: In progress	
Next Steps: <ul style="list-style-type: none"> • Collaborate in reviewing and analyzing data from MHURC's ongoing survey of large buildings over 20,000 m², and/or other building data, to develop observations and strategies for using the data to support comparative benchmarking. • Provide technical assistance in developing a recommended analytical methodology, including mathematical algorithms, for MHURC to use in developing a comparative benchmarking tool based on building data. • Written summaries of no-cost and low-cost recommendations for improving energy performance in existing buildings in China. 	
Proposed Project End Date: 2009	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Information: Concluded	

PROJECT STATUS REPORT FORM

Project Number: BATF-06-17	Task Force: Buildings and Appliances
Title of Project: OOPER(Office Operational Building Energy Rating)	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: China	
Project Location (Country, State/Province, City):	
Project Manager Information Name: Zhang Fulin Organization: Ministry of Housing and Urban-Rural Development of the People's Republic of China (MOHURD) Address: No. 9, Sanlihe Street, Haidian District, Beijing, P. R. China Phone: 86 10-58934548 Fax: 86-10-58934530 Email: zhangfl@mail.cin.gov.cn Please copy to: zsc2062198@yahoo.com.cn	
Project Start Date: Nov, 2006	Date of Project Status Update: October, 2009
Actions Since Last Update: None.	
Deliverables Since Last Update:	
Date Completed:	
Milestones Reached:	
Next Steps:	
Proposed Project End Date: June,2010	Project Already Complete: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Other Information : Cancelled	

PROJECT STATUS REPORT FORM

Project Number: BATF-06-18	Task Force: Buildings and Appliances
Title of Project: Training workshops on energy management, low-cost EE in existing buildings, tools, standardization, technical issues	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: India, China, Australia, Indian Bureau of Energy Efficiency (BEE), The Energy Research Institute (TERI) – India, ICLEI, Australian Energy Service Companies, Indian Building Owners and Managers, Chinese Building Owners and Managers, China Association of Science and Technology (CAST)	
Project Location (Country, State/Province, City):	
Project Manager Information Name: Carole Cook Phone: +1-202-343-9334 Organization: USEPA Fax: +1-202-343-2342 Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460 Email: cook.carole@epa.gov	
Project Start Date: April 2006	Date of Project Status Update: February 2010
Actions Since Last Update: None. The Contract Task Order and other financial instruments that supported this work have finished.	
Deliverables Since Last Update: None Date Completed: As of September 2008	
Milestones Reached:	
Next Steps: <ul style="list-style-type: none"> • To be determined. 	
Proposed Project End Date: 2011	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Information: Concluded	

PROJECT STATUS REPORT FORM

Project Number: BATF-06-19	Task Force: Buildings and Appliances						
Title of Project: Pilot implementation of no-cost and low-cost EE measures in existing buildings							
Lead Partner Country: USA							
Participating Partner Countries and Organizations: India, China, Australia, Indian Bureau of Energy Efficiency (BEE), The Energy Research Institute (TERI) – India, ICLEI, Australian Energy Service Companies, Indian Building Owners and Managers, Chinese Building Owners and Managers, China Association of Science and Technology (CAST)							
Project Location (Country, State/Province, City):							
Project Manager Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Name: Carole Cook</td> <td style="width: 50%; border: none;">Phone: +1-202-343-9334</td> </tr> <tr> <td style="border: none;">Organization: USEPA</td> <td style="border: none;">Fax: +1-202-343-2342</td> </tr> <tr> <td style="border: none;">Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460</td> <td style="border: none;">Email: cook.carole@epa.gov</td> </tr> </table>		Name: Carole Cook	Phone: +1-202-343-9334	Organization: USEPA	Fax: +1-202-343-2342	Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460	Email: cook.carole@epa.gov
Name: Carole Cook	Phone: +1-202-343-9334						
Organization: USEPA	Fax: +1-202-343-2342						
Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460	Email: cook.carole@epa.gov						
Project Start Date: April 2006	Date of Project Status Update: February 2010						
Actions Since Last Update: None. The Contract Task Order and other financial instruments that supported this work have finished.							
Deliverables Since Last Update: None							
Date Completed:							
Milestones Reached:							
Next Steps: To be determined.							
Proposed Project End Date: 2011	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Other Information: Concluded							

PROJECT STATUS REPORT FORM

Project Number: BATF-06-21	Task Force: Buildings and Appliances						
Title of Project: Retrofit of Existing Building Chillers in India							
Lead Partner Country: USA							
Participating Partner Countries and Organizations: India, China, Australia, Indian Bureau of Energy Efficiency (BEE), The Energy Research Institute (TERI) – India, ICLEI, Australian Energy Service Companies, Indian Building Owners and Managers, Chinese Building Owners and Managers, China Association of Science and Technology (CAST)							
Project Location (Country, State/Province, City):							
Project Manager Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; padding: 2px;">Name: Carole Cook</td> <td style="width: 50%; padding: 2px;">Phone: +1-202-343-9334</td> </tr> <tr> <td style="padding: 2px;">Organization: USEPA</td> <td style="padding: 2px;">Fax: +1-202-343-2342</td> </tr> <tr> <td style="padding: 2px;">Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460</td> <td style="padding: 2px;">Email: cook.carole@epa.gov</td> </tr> </table>		Name: Carole Cook	Phone: +1-202-343-9334	Organization: USEPA	Fax: +1-202-343-2342	Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460	Email: cook.carole@epa.gov
Name: Carole Cook	Phone: +1-202-343-9334						
Organization: USEPA	Fax: +1-202-343-2342						
Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460	Email: cook.carole@epa.gov						
Project Start Date: April 2006	Date of Project Status Update: September 2009						
Actions Since Last Update: World Bank selected alternate financial intermediary, the Industrial Development Bank of India (IDBI), to implement the project.							
Deliverables Since Last Update: None Date Completed:							
Milestones Reached:							
Next Steps: World Bank and IDBI conducted ceremonial project launch on September 16, 2009. World Bank to identify its selected beta-testers of the financial analysis tool through its equipment manufacturer and building owner contacts in India. IDBI to initiate outreach with building owners and participating equipment vendors to develop project proposals using innovative financing mechanism.							
Proposed Project End Date: 2011	Project Already Complete : <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						

Other Information: Concluded

- USEPA is providing technical assistance to this World Bank-led project designed to directly stimulate and support the replacement of roughly 2800 existing commercial building chillers through projects in India, China, Philippines, Indonesia, and Malaysia
- The project objective is the accelerated replacement of chillers using ozone-depleting CFC refrigerants to new and more energy-efficient technology by overcoming well-documented techno-economic and market barriers.
- There is also the potential to provide training to building owners so that the operation of their new chillers and overall energy performance is substantially enhanced.

PROJECT STATUS REPORT FORM

Project Number: BATF-06-22	Task Force: Buildings and Appliances						
Title of Project: Develop a guide to retrocommissioning of existing buildings.							
Lead Partner Country: USA							
Participating Partner Countries and Organizations: India, China, Australia, Indian Bureau of Energy Efficiency (BEE), The Energy Research Institute (TERI) – India, ICLEI, Australian Energy Service Companies, Indian Building Owners and Managers, Chinese Building Owners and Managers, China Association of Science and Technology (CAST)							
Project Location (Country, State/Province, City):							
Project Manager Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Name: Carole Cook</td> <td style="width: 50%; border: none;">Phone: +1-202-343-9334</td> </tr> <tr> <td style="border: none;">Organization: USEPA</td> <td style="border: none;">Fax: +1-202-343-2342</td> </tr> <tr> <td style="border: none;">Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460</td> <td style="border: none;">Email: cook.carole@epa.gov</td> </tr> </table>		Name: Carole Cook	Phone: +1-202-343-9334	Organization: USEPA	Fax: +1-202-343-2342	Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460	Email: cook.carole@epa.gov
Name: Carole Cook	Phone: +1-202-343-9334						
Organization: USEPA	Fax: +1-202-343-2342						
Address: 1200 Pennsylvania Ave., NW MC-6207J, Washington, DC 20460	Email: cook.carole@epa.gov						
Project Start Date: April 2006	Date of Project Status Update: September 2009						
Actions Since Last Update: None. The Contract Task Order and other financial instruments that supported this work have finished.							
Deliverables Since Last Update: None							
Date Completed:							
Milestones Reached:							
Next Steps: To be determined.							
Proposed Project End Date: 2011	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Other Information: Concluded							

PROJECT STATUS REPORT FORM

Project Number: BATF-06-23	Task Force: Buildings and Appliances
Title of Project: Low Energy High Rise	
Lead Partner Country: Australia	
Participating Partner Countries and Organizations: All	
Project Location (Country, State/Province, City): Australia, ACT, CANBERRA	
Project Manager Information	
Name: Jayan Parry	Phone: 02 6275 9154
Organization: DEWHA	Fax: 02 6275 9190
Address: John Gorton Building, CANBERRA	Email: jayan.parry@environment.gov.au
Project Start Date: July 2007	Date of Project Status Update: 23 July 2009
Actions Since Last Update: Stage 2: Completed with a final report on the potential for extending the Low Energy High Rise (LEHR) project to India and China delivered on 18 June 2009.	
Deliverables Since Last Update: Final milestone for Stage 2 (international extension report).	
Date Completed: Stage 2: 18 June 2009	
Milestones Reached: Stage 2 of LEHR has been achieved with the final report on the Indian and Chinese research and analysis completed.	
Next Steps: The report will be sent to BATF members in July/August 2009.	
Proposed Project End Date: 2009	Project Already Complete: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Other Information: Completed	

PROJECT STATUS REPORT FORM

Project Number: BATF PR-06-24	Task Force: Buildings and Appliances
Title of Project: Role Enhancement of Building Energy Codes	
Lead Partner Country: Republic of Korea, Co-leader : USA	
Participating Partner Countries and Organizations: Australia, India, China, Japan, Canada	
Project Location (Country, State/Province, City): USA, Washington, Richland; USA, Maryland, College Park; USA, Washington, D.C.; Canada, Ottawa; Australia, Canberra; China, Beijing; India, New Delhi; Japan, Tokyo; Korea, Seoul	
Project Manager Information Name: Dr. Seung-Eon Lee Organization: Korea Institute of Construction Technology Address: 2311, Daehwa-Dong, iLsanseo-Gu, Goyang-Si, Gyeonggi-Do, 411-712, Republic of Korea Phone: +82-31-910-0343 Fax: +82-31-910-0091 Email: selee2@kict.re.kr	
Project Start Date: 1 Nov 2006	Date of Project Status Update: December 2010
Actions Since Last Update: Survey & Compare Building Energy Codes in Participant Countries - An international building energy code enforcement workshop was organized by the Pacific Northwest National Laboratory of the U.S. Department of Energy (PNNL) and Chinese Academy of Building Research (CABR) in Beijing, China. The workshop served to facilitate the information exchange on each country's experiences regarding the compliance and enforcement of building energy codes, and placed a special focus on strengthening China and India's implementation practices. - The Pacific Northwest National Laboratory of the U.S. Department of Energy (PNNL) is collaborating with experts in India (including BEE) on a related effort to develop building energy code compliance software. Date Completed: The workshop was held in September 2009. A conference call with Indian experts to discuss the development of the compliance software and to raise ideas for organizing meetings in March took place in February 2010.	
Deliverables Since Last Update: Building energy code enforcement workshop in Beijing, China Conference call on related collaborative effort between Pacific Northwest National Laboratory of the U.S. Department of Energy (PNNL) and experts in India (including BEE) to develop building energy code compliance software Date Completed: September 2009 and March 2010, respectively.	
Milestones Reached: - Survey & Compare Building Energy Codes in Participant Countries	
Next Steps: Survey & Compare Building Energy Codes in Participant Countries - Meetings in March with Indian experts (including BEE) on related collaborative effort to develop building energy code compliance software	

Proposed Project End Date: 31 Oct 2011	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Information: Move to IPEEC, SBN	

PROJECT STATUS REPORT FORM

Project Number: BATF-6-25	Task Force: Buildings and Appliances
Title of Project : <i>Develop Compatible Window Rating Procedures and/or Labels</i>	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: Australia, China, India, Japan, South Korea,	
Project Location (Country, State/Province, City): <ul style="list-style-type: none"> • Gordon - 2072 NSW-Australia. • Beijing – China. • India – Gujarat-Ahmedabad. 	
Project Manager Information Name: Marc LaFrance Organization: US DOE Phone: 202-586-9142 Address: 1000 Independence Ave, SW Fax: 202-586-4617 Washington, DC 20585 Email: marc.lafrance@ee.doe.gov Lead Consultant: Bipin Shah, WinBuild	
Project Start Date: 2007	Date of Project Status Update: March 2010

Actions Since Last Update:**Australia:**

- **December 2009** - Mr. Tony Tanner, Executive Director, Roofing Tile Association of Australia met with Mr. Marc Lafrance of US-DOE and Mr. Bipin Shah of WinBuild Inc. Mr. Tanner mentioned that the Roofing Tile Association of Australia would like to initiate collaboration on Cool Roof Rating in Australia. He also wanted to share the research data and wanted interaction between US-National laboratories and the Australian labs.

China:

- **November 2009** - Conducted software simulation training workshop for OPTICS, THERM and WINDOW. Forty representatives from eleven national laboratories attended the training. Training covered US and Chinese simulation procedures, NFRC and JGJ/T 151 -2008 (simulation standard effective in China).
- **November 2009:** Simulation training manual, which included the listing of differences between the USA and the Chinese simulation procedure, was completed.

India:

- **October 2009** –Indian delegation, having representatives from the Indian government (Bureau of Energy Efficiency (BEE), and Power Ministry), industry, Institute and ECO-III team members visited NFRC. A field trip was organized for the delegation to see the working of NFRC administrative office, NFRC accredited laboratories and NFRC licensed inspection agencies. The delegation also visited an Energy star rated house and a Home Depot store. The focus was to demonstrate the working of National Fenestration Rating Council run certification and rating program in the USA.
- **October 2009** – Meeting with Glazing Society of India (an agency to administer the building envelope ratings in India) to plan the set-up of a rating program in India. Need to create program documents was identified at the meeting.
- **December 2009** – Initiated a zero energy building project at CEPT. The regional energy centre at CEPT is envisioned to be a Net Zero Building and provide energy efficiency technology demonstrations.
- **March 2009** – Construction of Air-Leakage chamber completed at CEPT. With this completion the laboratory is equipped to provide, U-factor, Solar Heat gain, Visible Transmittance and Air leakage rate, performance rating for fenestration products.

Deliverables Since Last Update:**China:**

- **November 2009**— software simulation training workshop for OPTICS, THERM and WINDOW

India:

- **March 2009** – Construction of Air-Leakage chamber completed at CEPT. With this completion the laboratory is equipped to provide, U-factor, Solar Heat gain, Visible Transmittance and Air leakage rate, performance rating for fenestration products.

Milestones Reached:**India:**

- Completion of a laboratory, equipped to provide, U-factor, Solar Heat gain, Visible Transmittance and Air leakage rate, performance rating for fenestration products.

Next Steps:

General:

- Initiation of new BATF project, "Promotion of Cool Roofs and Development of Cool Roof Energy Performance Labeling and Certification",

Australia:

- Continue to assist AFRC in development of fenestration ratings program.
- Initiate development of Cool Roof Rating program.

China:

- Host International Energy Efficiency & Zero Energy Building Envelope Conference 2010 on March 31-April 1st, 2010 in Beijing, China. Theme of the conference is Zero Energy Building.
- Initiate development of Cool Roof Rating program.

India:

- Assist CEPT in setting up building envelope testing facility.
- Continue to work on the establishment of window energy rating agency to administer ratings in India.
- Host train the trainer workshop in May 2010.
- Initiate development of Cool Roof Rating program.

USA:

- NFRC has developed a new simulation tool CMAST for rating commercial product with capability to issue label certificate electronically. NFRC will host a webinar for interested international countries to demonstrate the programs operations.

Proposed Project End Date: December 2012

Project Already Complete: Yes No

Other Information: **Move to IPEEC, SBN**

Image of the website



(as of November, 2010)

[Milestones]

June, 2008

After discussions and efforts over a few meetings on setting common keywords and grounds for the national databases, participating countries came to the conclusion of making the Portal a simple webpage with links to the existing national SB databases. India, Australia, Canada and the U.S. had already had their databases. Japan was starting to develop a national SB database in conjunction with this project.

September, 2008

The “APP Sustainable Buildings Database Portal” was opened containing links to the existing SB database websites of APP partners, namely Australia, Canada, India, Japan and the U.S..

June, 2009

The Portal linked to the website of “GreenSpaces in India” (BATF-08-49), but removed the link to the Canadian database because of its closure.

September, 2009

The Portal linked to the Chinese national website (in Chinese language), and to the information of the “Olympic Village in Beijing” (BATF-06-27), one of the BATF flagship projects.

November, 2010

The final update was made to the Portal to link to the “High Performance Commercial Buildings in India” (BATF-07-42) and to reset a link to a new Chinese national website (in Chinese language).

Expected Project End Date: December, 2010

Project Already Complete: Yes No

Please provide url address for where activity can currently be found along with new name and/or identification number of project (if applicable).

“APP Sustainable Buildings Database Portal”:

http://asiapacificpartnership.org/english/sustainable_buildings.aspx

The Portal will remain open on the APP website.

New Contact Information: (If different from above) *Please provide point of contact to find more information.*

Name: Shinji TAKAMI

Organization: Housing Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

Address: 2-1-3 Kasumigaseki, Chiyoda-ku, Tokyo, Japan 100-8918

Phone: +81-3-5253-8111

Email: takami-s2zx@mlit.go.jp

Other Information: Completed

Database of each country may well be kept updated. Please visit the following.

Australia: <http://www.yourbuilding.org/>

China: <http://www.chinagb.net/chinagbc/>

India: <http://www.sustainable-buildings.org/>

Japan: <http://www.ibec.or.jp/jsbd/>

U.S.: <http://eere.buildinggreen.com/>

Japanese national site, the Japan Sustainable Building Database (<http://www.ibec.or.jp/jsbd/>), is yet in the process of further development and expects to include more case studies based on the CASBEE assessment.

PROJECT STATUS REPORT FORM

Project Number: BATF-06-27	Task Force: Buildings and Appliances
Title of Project: Green Building Flagships in China (Flagship Project)	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: <u>China</u> : Ministry of Science and Technology (MOST), Ministry of Construction (MOC), Beijing Science and Technology Development Commission, Guo' Ao Development Company, National Development and Reform Commission (NDRC). <u>USA</u> : US Department of Energy, Alliance to Save Energy, Lawrence Berkeley National Laboratory, Oak Ridge National Laboratory, White Box Technology.	
Project Location (Country, State/Province, City): Beijing, China	
Project Manager Information	
Name: Mark Ginsberg	Phone: +1-202-586-1221
Organization: U.S. Department of Energy	Fax: +1-202-586-2096
Address: 1000 Independence Avenue, SW Washington, DC 20585	Email: mark.ginsberg@ee.doe.gov
Project Start Date: 1/07	Date of Project Status Update: 9/09
Actions Since Last Update:	
<ol style="list-style-type: none"> 1) Mayors' Training Center: No actions since last update. The new building design is being discussed with the Training Center and a timetable for construction and curriculum design is under development. 2) Olympic Village Micro-Energy (Near-Zero Energy) Building: The Olympic Village Micro-Energy (Near-Zero) Energy Building was completed in August 2008, in time for the start of the Olympic Games. In addition, on August 13, the entire Beijing Olympic Village (of which the Micro-Energy Building is part) received the Leadership in Energy and Environmental Design (LEED) Gold Award from the U.S. Green Building Council in recognition of its environmentally-friendly design. USDOE worked closely with Olympic Village developer Guo' Ao Development Company by providing technical assistance for the construction of 42 six- and nine-story high-rise buildings that are 50 percent more energy efficient than similar buildings in Beijing. 3) Center of Excellence (COE): No actions since last update. USDOE is exploring opportunities to establish a COE in a high visibility building in Beijing. Plans for a venue should be determined in early 2010. 	
Deliverables Since Last Update: The Olympic Village Micro-Energy (Near-Zero Energy) Building was completed.	
Date Completed: August 2008	
Milestones Reached:	
<ol style="list-style-type: none"> 1) Mayors' Training Center: n/a 2) Olympic Village: The Olympic Village Micro-Energy (Near-Zero Energy) Building was completed. 3) Center of Excellence: n/a 	

Next Steps:

- 1) Mayors' Training Center: The curriculum development is expected to begin in 2008, with a possible exchange of Mayors and/or "paired-city" programs.
- 2) Olympic Village: n/a (project completed)
- 3) Center of Excellence: Plans for a venue should be determined in 2008.

Proposed Project End Date:

- 1) Mayors' Training Center: TBD
- 2) Olympic Village: COMPLETED August 2008
- 3) Center of Excellence: TBD

Project Already Complete:

- X Yes (Olympic Village)
X No (Mayors' Training Centre and Center of Excellence)

Other Information: **Concluded**

1) **Mayors' Training Center:** Twice a year, the mayors of the major cities in China (as well as some county and community leaders and key municipal staff and enterprises) receive training at the Mayor's Training Center in Beijing on various topics related to municipal governance. The building in which the officials receive training was built in 1993 and uses inefficient and outdated technologies. With the USDOE as the lead, the APP partners have agreed to work with the Ministry of Construction (MOC) and the China Academy of Building Research to accomplish some or all of the following: a) Assist the MOC in making the current building more energy efficient; b) when a decision is made for a new facility, help design a high-performance or zero-energy building to be used as the new Mayors' Training Center (perhaps with a Center of Excellence included), in order to demonstrate high-performance building technologies to municipal officials during their training meetings, and to challenge them to build such buildings in their cities; c) update the curriculum to provide training on energy efficiency policies and practices.

2) **Olympic Village Micro-Energy (Near-Zero Energy) Building:** Over the last several years and as part of its APP collaboration, USDOE has been working with the Beijing Olympic Village developer, Guo'ao Development Company, to construct a near-zero-energy building to serve as the 2008 Olympic Village Welcome Center. The partnership was facilitated by the Beijing Science and Technology Development Commission. The approximately 2,200m² building was used to welcome 17,000 athletes from around the world. After the Games, the building will be remodeled and used as a kindergarten.

The building is close to zero-energy and generates the bulk of its power from renewable sources. The project also demonstrates water conservation and reuse, on-site waste processing, healthy indoor environment, and green building materials and technology. The building incorporates a large assortment of innovative passive and active energy efficiency technologies. Its basic design includes a highly efficient building shall put daylighting through south facing windows and a glazed central atrium. The HVAC system consists of radiant heating and cooling, with the solar heated water with a ground source heat pump is backup, which is also used to make ice in the winter for a seasonal thermal storage system that is then used to provide cooling to the mid-summer. A liquid desiccant system provides dehumidification when needed. There are also wind turbines and photovoltaics on the roof for demonstration. The high visibility of the Olympics ensured significant public exposure to the building. On August 13, 2008, the entire Beijing Olympic Village (of which the Micro-Energy Building is part) received the Leadership in Energy and Environmental Design (LEED) Gold Award from the U.S. Green Building Council in recognition of its environmentally-friendly design. USDOE worked closely with Olympic Village developer Guo'ao Development Company by providing technical assistance for the construction of 42 six- and nine-story high-rise buildings that are 50 percent more energy efficient than similar buildings in Beijing. Developed on a 160 acre site, the Olympic Village is the largest noncompetition venue at the 2008 Olympic games. In addition to the 42 residential buildings, there are seven community centers, three commercial and retail center buildings, a health center, library, gyms, swimming pools, tennis courts, and a kindergarten. The Village currently houses more than 16,000 Olympic athletes, team officials, and country delegations and accommodates meetings and cultural activities. DOE provided technical design and implementation assistance throughout the project's development, highlighting international cooperation to promote cleaner and more energy efficient technologies. The design uses solar photovoltaic power and solar thermal power to generate lighting and hot water for the community. High-efficiency heating and cooling systems, on-site waste processing, and the visibility of open green space are some of the techniques that were used to seal the certification. After the 2008 Olympics, the Guo'ao Investment Company will convert the development into a tourism site and residential area, available to Beijing residents in early 2009 with planned conversion to 1,700 high-rise apartments, while the welcome center will become a childcare center and kindergarten. The project also reduces storm water runoff from the site through an extensive network of parks and green open space. On the Village grounds, drought-resistance native plants make up more than 90 percent of site landscaping and water-efficient irrigation systems will use collected rainwater. The vegetated green roofs on more than 60 percent of the total roof area lower the amount of impervious surfaces, which further reduces storm water runoff. A signature feature of the Olympic Village is a pedestrian and bicycle network that spans and connects the community with bikeways and multi-use trails within 1/4 mile of all buildings.

3) **Center of Excellence (COE):** The APP/BATF partners have agreed to sponsor a Center of Excellence in Sustainable Design and Technology (COE), which was originally to be located on the second floor of the Agenda 21 energy-efficient demonstration office building in Beijing. The COE is intended to provide display, exhibition, and training opportunities in cutting-edge building technologies, database and benchmarking techniques, and buildings-related software tools. The ultimate goal of this project is the adaptation to China of advanced tools and techniques for high-performance buildings, and the dissemination—to building designers, architects, engineers, and commercial building owners, managers, and operators throughout the APP countries—of skills in using these tools to analyze building energy use. The COE will be populated and financed by a broad array of entities, and ongoing funding will largely be from private sector companies showcasing their energy efficiency technologies and products. The Center's location will be in a highly visible building and will attract visits from international officials and media, facilitating the dissemination of information beyond the Chinese building community. Finally, materials and information for the Center will be electronically available online.

PROJECT STATUS REPORT FORM

Project Number: BATF 06-29	Task Force: Buildings and Appliances
Title of Project: Good practices and lessons learned in the APP region to promote financing and the implementation of energy efficiency programs in utilities	
Lead Partner Country: USA	
Participating Partner Countries and Organisations: USA (USEPA, Lawrence Berkeley National Lab-LBNL), Australia (DEH), China, India, Japan, Korea	
Project Manager Information Name: Jack Fitzgerald Organisation: USEPA Address: 1200 Pennsylvania Avenue, NW, MC-6207J Washington, DC 20460 Phone : +1-202-343-9336 Fax : +1-202-343-2342 Email : fitzgerald.jack@epa.gov	
Project Start Date: April 2006	Date of Project Status Update: March 2009
Milestones:	
Actions Since Last Update:	
<ul style="list-style-type: none"> • Project has been suspended. 	
<ul style="list-style-type: none"> • Deliverables Since Last Update: • Next Steps: 	
Date Completed: Project has been suspended.	
Proposed Project End Date: TBD	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Information: Concluded	

PROJECT STATUS REPORT FORM

Project Number: BATF 06-30	Task Force: Buildings and Appliances
Title of Project: Technical support for China and India	
Lead Partner Country: USA	
Participating Partner Countries and Organisations: USA (USEPA, Lawrence Berkeley National Lab-LBNL), Australia (DEH), China, India, Japan, Korea	
Project Manager Information Name: Jack Fitzgerald Organisation: USEPA Address: 1200 Pennsylvania Avenue, NW, MC-6207J Washington, DC 20460 Phone : +1-202-343-9336 Fax : +1-202-343-2342 Email : fitzgerald.jack@epa.gov	
Project Start Date: April 2006	Date of Project Status Update: March 2009
Milestones:	
Actions Since Last Update:	
<ul style="list-style-type: none"> • Project has been suspended. 	
<ul style="list-style-type: none"> • Deliverables Since Last Update: • Next Steps: 	
Date Completed: Project has been suspended.	
Proposed Project End Date: TBD	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Information: Concluded	

Next Steps:

Seek the support & approval of Indian Government_

Part of the value-add envisaged in this project is derived from the involvement of more than one utility. However, the Australian APP Steering Committee's minimum requirement is:

- "an indication of support or engagement from an Indian Government Utility".

At this stage, it is planned to undertake site visits to:

- Promote the objectives of the project;
- Explain the approach, timing and commitment necessary for participation; and
- Obtain written commitments from interested utilities.

Proposed Project End Date: 2010

Project Already Complete: Yes No

Other Information: Concluded

Following the withdrawal of the original proponent, the secondary proponent has agreed to continue with the project with government assistance.

PROJECT STATUS REPORT FORM

Project Number: BATF 06-32	Task Force: Buildings and Appliances
Title of Project: Green Leases	
Lead Partner Country: Australia	
Participating Partner Countries and Organisations:	
<ul style="list-style-type: none"> • USA, Partner Country 	
Project Location (Country, State/Province, City): Washington D. C., USA	
Project Manager Information	
Name: Lloyd Woodford	Phone: +61 2 6274 1734
Organisation: Department of the Environment, Water, Heritage and the Arts	Fax: +61 2 6275 9190
Address: GPO Box 787, Canberra ACT 2601, Australia	Email: Lloyd.woodford@environment.gov.au
Project Start Date: Nov 2006	Date of Project Status Update: Sept 2009
Actions Since Last Update:	
Project still in the development phase, no actions to report since last update	
Deliverables Since Last Update:	
Project still in the development phase, no deliverables to report since last update	
Date Completed:	
Milestones Reached:	
<ul style="list-style-type: none"> - Commitment to co-chairing the project by the US Government - Submission of Stage 2 project assessment application to the Australian Management Committee 	
Next Steps:	
<ol style="list-style-type: none"> 1. Formalise co-chairing arrangement with the USA 2. Finalise negotiations with industry and other government partners 3. Organise the first workshop in Washington D.C.; and 4. Commence project 	
Proposed Project End Date: 2010	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Other Information: Cancelled

As part of the program, a workshop on Green Leases was proposed for October 2009 in Washington D.C.. However, despite the initial contact and commitment made, there has been a significant and noticeable lack of communication or response from the US Government, in their capacity as the co-chair of the project. As a consequence, the Australian Government is unable to progress with the workshop.

The Australian Government will take the opportunity of the October 2009 BAFT meeting in Tokyo to determine the intention of the US Government in relation to its future participation in the project.

PROJECT STATUS REPORT FORM

Project Number: BATF-06-33	Task Force: Buildings and Appliances
Title of Project: Commercial Financing: Share Approaches	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: US, India, World Bank. AD HOC: Global Environment Facility (GEF)	
Project Location (Country, State/Province, City): USA, California, Berkeley; India, Delhi; India, Maharashtra, Mumbai; India, Rajasthan, Jaipur	
Project Manager Information Name: Cynthia Wilson Organization: US Department of Energy (USDOE) Address: PI-60/Forrestal Building U.S. Department of Energy 1000 Independence Avenue, SW Washington, DC 20585 Phone: +1-202-586-6708 Fax: +1-202-586-5342 Email: Cynthia.Wilson@hq.doe.gov	
Project Start Date: January 2007	Date of Project Status Update: September 2009
Actions Since Last Update: •	
Deliverables Since Last Update: Analysis	
Date Completed: August 30, 2009	
Milestones Reached: •	
Next Steps: •	
Proposed Project End Date: October 2009	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
• Other Information: Cancelled	

PROJECT STATUS REPORT FORM

Project Number: BATF-06-34	Task Force: Buildings and Appliances
Title of Project: Market Assessment-Public Building Energy Efficiency Investment Potential in India	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: US, India, World Bank. AD HOC: Global Environment Facility (GEF)	
Project Location (Country, State/Province, City): USA, California, Berkeley; India, Delhi; India, Maharashtra, Mumbai; India, Rajasthan, Jaipur	
Project Manager Information Name: Cynthia Wilson Organization: US Department of Energy (USDOE) Address: PI-60/Forrestal Building U.S. Department of Energy 1000 Independence Avenue, SW Washington, DC 20585 Phone: +1-202-586-6708 Fax: +1-202-586-5342 Email: Cynthia.Wilson@hq.doe.gov	
Project Start Date: January 2007	Date of Project Status Update: September 18, 2009
Actions Since Last Update: <ul style="list-style-type: none"> • Analysis complete; report in process • The analysis has estimated the number of buildings, the total floor space, and the energy consumption of Indian public buildings. • The analysis has projected the increase in public building floor space and energy consumption, for the period 2010-2050. • Preliminary analysis indicates that substantial cost-effective energy savings be achieved through improvements in selected technologies for space cooling and lighting for replacement in existing buildings and new construction in hospitals, offices, and schools. • Parties that undertake further analysis are likely to identify even larger opportunities for energy efficiency improvements in Indian public buildings. 	
Deliverables Since Last Update: Analysis	
Date Completed: August 30, 2009	
Milestones Reached: <ul style="list-style-type: none"> • Analysis completed • Report in process 	

Next Steps:

- Complete draft report (September 2009)
- Submit draft report to contributors and potential users for review (India BEE and Eco III)
- Complete final report (October 2009)
- Provide results to India BEE and World Bank for use in seeking GEF funding and developing India low carbon growth strategy

Proposed Project End Date: October 2009**Project Already Complete:** Yes No

- **Other Information: Completed**

PROJECT STATUS REPORT FORM

Project Number: BATF-06-35	Task Force: Buildings and Appliances
Title of Project: Commercial Financing: Joint Projects	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: US, India, World Bank. AD HOC: Global Environment Facility (GEF)	
Project Location (Country, State/Province, City): USA, California, Berkeley; India, Delhi; India, Maharashtra, Mumbai; India, Rajasthan, Jaipur	
Project Manager Information Name: Cynthia Wilson Organization: US Department of Energy (USDOE) Address: PI-60/Forrestal Building U.S. Department of Energy 1000 Independence Avenue, SW Washington, DC 20585 Phone: +1-202-586-6708 Fax: +1-202-586-5342 Email: Cynthia.Wilson@hq.doe.gov	
Project Start Date: January 2007	Date of Project Status Update: September 2009
Actions Since Last Update: •	
Deliverables Since Last Update: Analysis	
Date Completed: August 30, 2009	
Milestones Reached: •	
Next Steps: •	
Proposed Project End Date: October 2009	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
• Other Information: Cancelled	

PROJECT STATUS REPORT FORM

Project Number: BATF-07-36	Task Force: Buildings and Appliances														
Title of Project: Harmonization of Testing Procedures and Quality Assurance – Compact Fluorescent Lamps Sub-Project Plan (Flagship Project)															
Lead Partner Country: Australia and US; Co-Lead, Korea															
Participating Partner Countries and Organizations: Korea															
Project Location: China, India, Indonesia,															
Project Manager Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; padding: 2px 5px;">Name: Kevin Schwartz</td> <td style="width: 50%; padding: 2px 5px;">Phone: +1 202 647 6900</td> </tr> <tr> <td style="padding: 2px 5px;">Organization: US Department of State</td> <td style="padding: 2px 5px;">Fax:</td> </tr> <tr> <td style="padding: 2px 5px;">Address:</td> <td style="padding: 2px 5px;">Email: schwartzkm@state.gov</td> </tr> <tr> <td colspan="2" style="padding: 2px 5px;">Name: Melanie Slade</td> </tr> <tr> <td style="padding: 2px 5px;">Organization: Department of the Environment, Water, Heritage, and the Arts, Australia</td> <td style="padding: 2px 5px;">Phone: +61 6274 1586</td> </tr> <tr> <td style="padding: 2px 5px;">Address: GPO Box 787, Canberra ACT 2601, Australia</td> <td style="padding: 2px 5px;">Fax: +61 6274 9190</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">Email: Melanie.Slade@environment.gov.au</td> </tr> </table>		Name: Kevin Schwartz	Phone: +1 202 647 6900	Organization: US Department of State	Fax:	Address:	Email: schwartzkm@state.gov	Name: Melanie Slade		Organization: Department of the Environment, Water, Heritage, and the Arts, Australia	Phone: +61 6274 1586	Address: GPO Box 787, Canberra ACT 2601, Australia	Fax: +61 6274 9190		Email: Melanie.Slade@environment.gov.au
Name: Kevin Schwartz	Phone: +1 202 647 6900														
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Address: GPO Box 787, Canberra ACT 2601, Australia	Fax: +61 6274 9190														
	Email: Melanie.Slade@environment.gov.au														
Project Start Date: July 2007	Date of Project Status Update: December 2010														
Actions Since Last Update (September 2009): <ul style="list-style-type: none"> • <u>Presented results on analysis of CFL testing.</u> The combined results of this initial performance and mercury testing, plus 2000h lumen maintenance testing were presented at a workshop launching of the Asia Lighting Compact (ALC) in October 2009 at the Hong Kong International Lighting Fair. • <u>Launched the Asia Lighting Compact (ALC).</u> The ALC, an independent regional body fostered by the APP, whose mission is to promote CFL standards harmonization, mutual recognition of test results, and lighting product quality was launched in October 2009 at the Hong Kong International Lighting Fair. A website (www.asialighting.org) was also presented at the launch. • <u>Outreach on international standards.</u> The APP Partners hosted a “<i>Forum to Facilitate Asian Participation and Influence in IEC Standards Development for Lighting</i>”. The forum, held in Hong Kong on 28-29 October 2009, was designed to encourage greater dialogue between countries in the Asian region on national and international standards development and to increase the participation of Asian countries in the IEC standards development process. Representatives from Australia, China, India, Indonesia, Philippines, Sri Lanka, Thailand, the US, and Vietnam attended the forum.. 															
Date Completed:															

Deliverables Since Last Update:

- Presented the three-tiered industry-led quality guidelines for CFLs at the Hong Kong International Lighting Fair in October 2009. The Asia Lighting Compact's two higher tiers are based on Efficient Lighting Initiative (ELI) and UK Energy Saving Trust version 6 (EST 6).
- Launched the Asia Lighting Compact in Hong Kong in October 2009. The organization is being registered in Singapore as an independent organization. Its mission is to promote lighting product quality (CFLs) and harmonization of lighting standards.
- Established the ALC's CFL Quality Registry. The registry has now 5 suppliers, and ~200 CFL qualified models.
- Hosted the Hong Kong forum and establishment of LITES.Asia, including development of a website (www.lites.asia). The Hong Kong forum resulted to the development of a ten point plan for further action with the establishment of a regional network to be known as LITES.Asia (a regulator focused organisation which aims to promote regional co-operation on the development of lighting standards and facilitate greater involvement of Asian countries in the IEC standards process) as a key feature.

Date Completed:**Milestones Reached:**

- Report on benchmark testing of compact fluorescent lamp (CFL) quality. The data from this test initiative has been reviewed by US and Australian experts and findings were presented at the ALC launch in October 2009 at the Hong Kong International Lighting Fair. Testing in China and Australia is funded by Australia, and testing in India is funded by the US.
- Establishment of the Asia Lighting Compact (ALC). With assistance from this APP project, the ALC is now registered in Singapore as an independent organization. It currently has 19 members and growing. The ALC's CFL Quality Registry has now 5 suppliers, and ~200 CFL qualified models.
- Guide to phasing out inefficient lamps. The government of Australia has collated data to construct a coherent and achievable guide for phase-out action and has drafted a roadmap for early phase-out action.

Next Steps:

- Publish Report on CFL benchmark testing. The US and Australia is about to publish a report on CFL benchmark testing (“Testing for Quality – Benchmarking Energy-Saving Lamps in Asia”), covering results from testing of CFLs at laboratories in Australia, China and India. (Target: March 2010).
- Increase visibility and viability of the Asia Lighting Compact. (ALC). Continue support to ALC infrastructure set up and marketing activities (e.g. “road shows”) to introduce ALC to government agencies, institutions, suppliers, and commercial entities. APP Partners will continue to provide technical assistance to ALC product registry activities and serve as the ALC Secretariat.
- Global Harmonised Performance Standards. Support to involve and fund the attendance of one or more delegates from countries in the Asian region (APP country participation) at relevant IEC meetings, where lighting testing and performance standards are being considered. With APP Partners, release of LITES.Asia (a regional network to exchange information and standards for lighting) website and organisation of first LITES.Asia meeting in June 2010 in Beijing.

Proposed Project End Date: Dec 2010

Project Already Complete: Yes No

Other Information: **Move to IPEEC SEAD**

PROJECT STATUS REPORT FORM

Project Number: BATF-07-37	Task Force: Buildings and Appliances
Title of Project: Mitigating climate change via implementation of India's energy efficiency standards and labeling program	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: India, BEE (Bureau of Energy Efficiency)	
Project Location (Country, State/Province, City): New Delhi, India	
Project Manager Information	
Name: Garrett Barnicoat	Phone:
Organization: US Department of State	Fax:
Address:	Email: barnicoatge@state.gov
Project Start Date: 19 Sept 2007	Date of Project Status Update: 24 September 2009
Actions Since Last Update:	
This sub-project is funded by the US APP Program Office of the U.S. Department of State. This is the second Update since this sub-project was funded. The grantee is CLASP.	
Date Completed: September 24, 2009	
Deliverables Since Last Update:	
These include:	
<ul style="list-style-type: none"> ○ Draft Market Transformation Report for Consumer Electronics in India developed, based on background research collected last quarter. ○ Survey Questionnaire on Identifying Best Practices, developed and circulated to APP contacts in other countries. ○ Best Practice Analysis for Consumer Electronics draft format developed from other APP countries, based on survey responses and literature reviews. 	
Outreach Materials Finalized and Dissemination Initiated. These include:	
<ul style="list-style-type: none"> ○ Final Survey Report for market research on consumer awareness about S&L Program and market availability of the energy efficient refrigerators and air-conditioners (Deliverable #1). ○ Final Impact Assessment Report for the first phase of impact assessment. The report has been endorsed by BEE and is currently under design for publication. (Deliverable #2). 	
Date Completed: As of 31 August 2009	
Milestones Reached:	
See deliverables above	
Next Steps:	
Continue to progress on remaining tasks including preparation of Best Practice Report and preparations for APP Best Practice Workshop.	

Proposed Project End Date: 30 Sep 2010	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Information: Concluded	

PROJECT STATUS REPORT FORM

Project Number: BATF-07-38	Task Force: Buildings and Appliances								
Title of Project: The urban climate project building clean and efficient cities									
Lead Partner Country: USA									
Participating Partner Countries and Organizations: India									
Project Location (Country, State/Province, City): India, Gujarat, Rajkot; and India, Tamil Nadu, Coimbatore									
<table style="width: 100%; border: none;"> <tr> <td colspan="2">Project Manager Information</td> </tr> <tr> <td style="width: 50%; padding: 2px;">Name: Garrett Barnicoat</td> <td style="width: 50%; padding: 2px;">Phone:</td> </tr> <tr> <td style="padding: 2px;">Organization: US Department of State</td> <td style="padding: 2px;">Fax:</td> </tr> <tr> <td style="padding: 2px;">Address:</td> <td style="padding: 2px;">Email: barnicoatge@state.gov</td> </tr> </table>		Project Manager Information		Name: Garrett Barnicoat	Phone:	Organization: US Department of State	Fax:	Address:	Email: barnicoatge@state.gov
Project Manager Information									
Name: Garrett Barnicoat	Phone:								
Organization: US Department of State	Fax:								
Address:	Email: barnicoatge@state.gov								
Project Start Date: 29 Jan 2008	Date of Project Status Update: 15 Aug 2009								

Actions Since Last Update:

This sub-project is funded by the US APP Program Office of the U.S. Department of State. The Grantee is ICLEI USA (Local Governments for Sustainability). This is the third Update since this sub-project was funded. Rajkot in Gujarat, and Coimbatore in Tamil Nadu are the project cities under the project. In the first phase of the project ICLEI selected cities and evaluated the potential for clean development interventions in projects pipelined for funding under the JNNURM scheme. JNNURM is a national grant scheme designed to finance substantial urban infrastructure development over the next five years. ICLEI is now working with these cities to develop concept notes and Detailed Project Reports for clean interventions as prerequisite for JNNURM and related urban development program financing. Some examples (for Rajkot city):

Urban Planning:

- Greening the city: urban greening guidelines with details
- Developing eco housing standards
- Density and development standards for the Bus Rapid Transit corridor
- 24X7 water supply pilot.
- Introducing energy efficiency in water supply.
 - Looking at the role of ESCOs for energy efficiency management of water supply system
 - Leakage Management Program – Developing a template for unaccounted for water

Waste Water Management:

- Decentralizing waste water treatment system (reducing pressure on the designed STP) costs and bylaws
- Co-combustion of municipal waste water and sewage sludge in digesters in new waste water treatment plant

Solid Waste Management:

- Design for energy generation from cattle management, and related solid waste management issues.

Transportation:

- Provision of flyovers – Carbon footprint analysis
- Design details of pedestrian footpath and cycle tracks

Date Completed:**Deliverables Since Last Update:**

None as of this Update

Date Completed: As of Aug 15th, 2009

Milestones Reached:

ICLEI has engaged MOU's with two cities to work under this project, and has begun to design and scope the five measures needed by the project in each city.

Next Steps:

On Sept 14-15, ICLEI is holding a national APP workshop for more than 15 cities and 100 participants to continue nationwide knowledge dissemination about the APP and to train cities on how they can promote low carbon development and integrate clean development principles into their infrastructure implementation plans. The workshop is cofounded by the British High Commission through another project of ICLEI. This program is being implemented in partnership with ICLEI South Asia.

Proposed Project End Date: 30 Oct 2010**Project Already Complete:** Yes No**Other Information:** **Concluded**

PROJECT STATUS REPORT FORM

Project Number: BATF-07-39	Task Force: Buildings and Appliances
Title of Project: Improvements to Existing Buildings – Australia-India Building Tune-Ups	
Lead Partner Country: Australia	
Participating Partner Countries and Organizations: <ul style="list-style-type: none"> • Indian Bureau of Energy Efficiency • TERI (India) • Australian Energy Service Companies • The Australian Department of the Environment, Water, Heritage and the Arts • Indian Building Owners 	
Project Location: India, New Delhi	
Project Manager Information Name: Maria Sgroi Organization: Department of the Environment, Water, Heritage and the Arts Address: John Gorton Building, Canberra, Australia Phone: +61 2 6275 9271 Fax: +61 2 6275 9190 Email: Maria.Sgroi@environment.gov.au	
Project Start Date: July 2008	Date of Project Status Update: September 2009
Actions Since Last Update: <ul style="list-style-type: none"> • Detailed Feasibility Assessments (DFA's) and Building Tune-Up (BTU) Proposals are being prepared. 	
Deliverables Since Last Update: <ul style="list-style-type: none"> • No other deliverables since last July 2009 report (2nd Progress Report was delivered in July 09). 	
Date Completed: July 23, 2009	

Milestones Reached:

- Objective 2: The detailed DFAs and BTU proposals for each building has commenced.

Next Steps:

- 18 & 19. Objective 2a: DFAs and BTU Proposals to be completed.
- 20. Objective 2b: Final Building Owner Sign Up.

Proposed Project End Date:

June 2012

Project Already Complete: Yes No**Other Information: Concluded**

The ten buildings that have secured building owner approval status are:

1. Life Insurance Corp. (LIC) – Jeevan Bharti, New Delhi.
2. Indian Oil Corp. (IOCL) – Sri Aurobindo Marg, Yusuf Sarai, New Delhi.
3. Indian Oil Corp Udyog Marg, Sector 1, Noida.
4. National Thermal Power Corp. (NTPC) – Research and Development Centre, Sector 24, Noida.
5. Scope Minar (SCOPE) – Laxmi Nagar, District Centre, New Delhi.
6. Scope Complex (SCOPE) – 7 Lodi Road, New Delhi.
7. Holy Family Hospital (Holy Family) – Okhla Road, New Delhi.
8. St. Stephen's Hospital (St. Stephen's) – Tis Hazari, New Delhi.
9. National Museum (Central Government) – Janpath, New Delhi.
10. Vigyan Bhawan Complex (Central Government) – Maulana Azad Road, New Delhi.

PROJECT STATUS REPORT FORM

Project Number: BATF-07-40	Task Force: Buildings and Appliances
Title of Project: National Energy Management Program in India	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: India	
Project Location (Country, State/Province, City): India, Punjab; India, Gujarat	
Project Manager Information	
Name: Norman Barth	Phone: +1 202 647 3935
Organization: US Department of State	Fax:
Address:	Email: barthnh@state.gov
Project Start Date: 20 Sept 2007	Date of Project Status Update: 15 Sep. 2009
Actions Since Last Update:	
<ul style="list-style-type: none"> • As part of the national end –use energy benchmarking of commercial buildings activity, the project has collected data and conducted the preliminary analysis for 300 buildings which include office buildings operating in one shift and three shifts, hotels, hospitals and shopping malls. • ‘Energy Conservation Building Code – User Guide was finalized, printed and launched by BEE on July 22, 2009. • Series of meetings under Municipal Energy Efficiency Project (MEEP) by Program Monitoring Committee were organized for facilitating implementation process under energy performance contracting especially in issues related to the roles and responsibilities, appropriateness of technology and strategies related to M&V. • Continued support to public-sector building energy efficiency program for the state of Punjab with PWD (Buildings & Road Department) and Punjab Energy Development Agency. • Framework for 18 Workshops on Educational Curriculum Enhancement Program in the period August –Oct 2009 was planned. This involves building simulation software installation and awareness for new generation architects at the architectural institutes. 	
Date Completed: As of Sep 11,2009	
Deliverables Since Last Update:	
<ul style="list-style-type: none"> • ‘Energy Conservation Building Code – User Guide has been prepared and launched. 	
Milestones Reached:	
<ul style="list-style-type: none"> • Helped BEE award Star Rating program for 50 commercial buildings. • Two ESCOs have commenced Municipal Energy Efficiency Project for 10 urban local Bodies in Gujarat. • Four workshops on Educational Curriculum Enhancement Program have been completed at Jadavpur University, Kolkata, Chandigarh College of Architecture, Chandigarh, NIT Hamirpur and Faculty of Architecture of UP Technical University, Lucknow 	

Next Steps:

- Preparation of M&V Plan and case studies for Buildings and Municipalities in partnership with Alliance for an Energy Efficient Economy and DSCLES.
- Finalization of Municipal Street-Lighting Tip Sheet
- Document Gujarat MEEP as a Case Study
- Identify the state in partnership with BEE for ECBC implementation.

Proposed Project End Date: 30 Sep 2010**Project Already Complete:** Yes No**Other Information:** **Concluded**

PROJECT STATUS REPORT FORM

Project Number: BATF-07-41	Task Force: Buildings and Appliances						
Title of Project: Tianjin Green Office Building Retrofit							
Lead Partner Country: Australia							
<p>Participating Partner Countries and Organizations:</p> <p>Australian Best Practice specialist leaders Consortium in this project include:</p> <ul style="list-style-type: none"> • Maunsell, • Bassett, • Design Inc, and • Energy Conservation Systems. <p>Chinese Participants in this project include:</p> <ul style="list-style-type: none"> • The Tianjin Environment Protection Bureau, • Maunsell China, • Broad Air-conditioning, and • Tianjin University. <p>Australian Equipment Suppliers in this project include:</p> <ul style="list-style-type: none"> • Energy Conservation Systems, • CSR Bradford, and • BP Solar/Origin Energy. 							
Project Location (Country, State/Province, City): Tianjin, People's Republic of China							
<p>Project Manager Information</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; padding: 2px;">Name: Michael Nolan</td> <td style="width: 50%; padding: 2px;">Phone: + 61 3 9653 1234</td> </tr> <tr> <td style="padding: 2px;">Organization: Maunsell Australia</td> <td style="padding: 2px;">Fax:</td> </tr> <tr> <td style="padding: 2px;">Address: Level 9, 8 Exhibition Street, Melbourne, VIC 3000 Australia</td> <td style="padding: 2px;">Email: Michael.nolan@maunsell.com</td> </tr> </table>		Name: Michael Nolan	Phone: + 61 3 9653 1234	Organization: Maunsell Australia	Fax:	Address: Level 9, 8 Exhibition Street, Melbourne, VIC 3000 Australia	Email: Michael.nolan@maunsell.com
Name: Michael Nolan	Phone: + 61 3 9653 1234						
Organization: Maunsell Australia	Fax:						
Address: Level 9, 8 Exhibition Street, Melbourne, VIC 3000 Australia	Email: Michael.nolan@maunsell.com						
Project Start Date: N/A	Date of Project Status Update: April 2009						

Actions Since Last Update:

- Advised that the Tianjin Environment Protection Bureau (TEPB) does not want to proceed with this project. The TEPB has written to the Melbourne City Council office in Tianjin informing them that they do not wish to proceed with this project.
- As an Olympic City the Tianjin Municipal Government (TMG) made arrangements for the redevelopment of city buildings and roads along the main trunk routes. This work had to be completed by July 2008 (this would only have allowed three months for the project to be undertaken). The TMG realised that there would be insufficient time for this project to be completed based on the Australian conceptual designs.
- At the BATF6 meeting Australia indicated that there was a possibility that TEPB/TMG might withdraw from the project.

Deliverables Since Last Update: N/A**Date Completed:** 23 October 2008 (cancelled)**Milestones Reached:** N/A**Next Steps:**

N/A

Proposed Project End Date: N/A**Project Already Complete:** Yes No**Other Information:** **Cancelled**

PROJECT STATUS REPORT FORM

Project Number: BATF-07-42	Task Force: Buildings and Appliances						
Title of Project: High performance commercial buildings in India							
Lead Partner Country: USA							
Participating Partner Countries and Organizations: TERI, India, White Box Technologies, USA and Bureau of Energy Efficiency, India							
Project Location (Country, State/Province, City): India							
Project Manager Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; padding: 2px;">Name: Mili Majumdar</td> <td style="width: 50%; padding: 2px;">Phone: +911124682100 / 2468 2111</td> </tr> <tr> <td style="padding: 2px;">Organization: TERI</td> <td style="padding: 2px;">Fax: 011- 2468 2144</td> </tr> <tr> <td style="padding: 2px;">Address: India</td> <td style="padding: 2px;">Email: milim@teri.res.in</td> </tr> </table>		Name: Mili Majumdar	Phone: +911124682100 / 2468 2111	Organization: TERI	Fax: 011- 2468 2144	Address: India	Email: milim@teri.res.in
Name: Mili Majumdar	Phone: +911124682100 / 2468 2111						
Organization: TERI	Fax: 011- 2468 2144						
Address: India	Email: milim@teri.res.in						
Project Start Date: 28 Jan 2008	Date of Project Status Update: 18 October 2010						
Actions Since Last Update: <ul style="list-style-type: none"> • Step 1 (A) and Step 1 (B) Energy and comfort audit of Pre ECBC era and ECBC compliant commercial buildings is complete. • Step 3 Energy saving potential due to solar passive design features and ECBC measures for all climate zones of India are quantified and market demand forecast is complete. • Step 4, Training and capacity building programs in five cities falling in five different climate zones is complete. • Step 5, The outcomes of the project have been integrated in the model building bye law under NAPCC (National Action Plan on Climate Change). Besides this it is proposed for integration in the municipality bye laws of the following cities: Ahmedabad, Haryana, Bhubaneswar, Kolkata, Bangalore and in the state of Uttar Pradesh (UP). • Final booklet with case studies of high performance ECBC compliant buildings and solar passive buildings is complete and published. • Website with all the outcomes of the project and case studies is being developed and is in progress. 							
Deliverables Since Last Update: <ul style="list-style-type: none"> • Energy + comfort audit reports of all ECBC compliant buildings. • Report on energy saving potential due to low energy design strategies and ECBC measures for all five climate zones • Report on market demand forecast for energy efficient products. • Reports on training programs and industry meet which were conducted in various cities of India. • Report on the developed website under this project on High Performance Commercial Buildings in India. • Report on integration of the project within municipal bye laws of Haryana and Kolkata. 							
Date Completed: 31 st July, 2010							

Milestones Reached:

- **Step 1 (A)**, Energy + comfort audit of Pre ECBC era 10 commercial buildings is complete.
- **Step 1 (B)**, Energy + comfort audit of 5 ECBC compliant commercial buildings is complete.
- **Step 2**, Energy performance validation through computer modeling is complete.
- **Step 3**, Energy demand forecast and potential of energy efficient measures in commercial buildings is complete.
- **Step 4**, Two International workshop to disseminate the findings of the project is complete.
- **Step 4**, Publication of brochures under the project is complete.
- **Step 4**, Website is being developed and is operational. The link for which is <http://high-performancebuildings.org/index.php>.
- **Step 4**, Training and capacity building of various stakeholders in five cities from five climate zones is complete.
- **Step 5**, Integration of project outcomes in the model building bye law under NAPCC (National Action Plan on Climate Change). Besides this it is proposed for integration in the municipality bye laws of the following cities: Ahmedabad, Haryana, Bhubaneswar, Kolkata, Bangalore and in the state of Uttar Pradesh (UP).

Next Steps:

- Website completion is in progress.

Proposed Project End Date: 31st August, 2010**Project Already Complete:** Yes No**Other Information:** **Completed**

PROJECT STATUS REPORT FORM

Project Number: BATF-07-43	Task Force: Buildings and Appliances
Title of Project: Regional Energy Efficiency Centers (REECs) in India	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: India. West Bengal Renewable Energy Development Agency (WBREDA), West Bengal State Electricity Distribution Company Ltd., Center for Environmental Planning and Technology (CEPT), See Tech Solutions, Government of Gujarat, Glazing Society of India, National Fenestration Rating Council (USA), US Department of Energy (USA)	
Project Location (Country, State/Province, City):	
<ol style="list-style-type: none"> 1. REEC for Buildings at CEPT: India, Gujarat, Ahmedabad 2. REEC for Small & Medium Enterprises at See Tech: India, Maharashtra, Nagpur 3. REEC for Home Appliances at WBREDA: India, West Bengal, Kolkata 	
Project Manager Information	
Name: Dr. Archana Walia	Phone: +91-11-2419-8153
Organization: USAID/India	Fax: +91 11-2419-8454
Address: American Embassy, Chanakyapuri, New Delhi 110021	Email: awalia@usaid.gov
Project Start Date: 1 October 2007	Date of Project Status Update: 25 February 2010
Actions Since Last Update:	
REEC at CEPT	
<ul style="list-style-type: none"> ● Completed the procurement and commissioning of all the identified equipment (except Air leakage Chamber). In-house construction and commission of Air Leakage Chamber will be completed by the end of March 2010. ● Further to the USG support, Glazing Society of India provided a Grant of Rs. 75 Lakhs (\$ 156,250) for procurement of additional REEC equipment (Spectrophotometer – Fourier Transform Infrared Spectroscopy). The equipment is functional for REEC activities. ● Financial support from Government of Gujarat has been committed for the construction of REEC building. First installment of the Grant is expected in April 2010. Designing of REEC building has been commenced. ● Additionally, financial support of Rs. 78 Lakh (\$ 162,500) from Ministry of New and Renewable Energy, Government of India to design, build and install equipment - Solar Calorimeter in REEC has been made. ● Three new staff added for staffing and functioning of the test lab. Process of getting accreditation of test lab has been initiated. Commercial testing of building materials at REEC is planned to commence from April 2010. ● REEC hosted IBPSA India seminar on Building Energy Simulation (14 Feb 2009) 	
REEC at WBREDA	
<ul style="list-style-type: none"> ● Grant assistance of Rs. 20 Lakhs (\$ 42,000) for the current year received from the West Bengal Government to establish REEC for Home Appliances in Kolkata. 	

- The Foundation Stone Laying ceremony for REEC building on 14th Dec. 2009 attended by Mr. Mrinal Banerjee, Power Minister; Mr. Steven J. White, Deputy Chief of Mission, US Embassy, USAID officials, Senior Officials from the State Government, a large number energy professionals, and other stakeholders,
- Distributed the brochure on REEC and energy efficiency guides on home appliances (room air conditioner, home refrigerator, ceiling fan, etc.) at the foundation stone laying event.
- Sanction received from the Government of West Bengal for Rs. 1.03 Crore (\$ 224,000) for the construction of REEC Building.
- Prepared the building plans with incorporation of appropriate energy efficiency features in the building design. Commencement of construction work is expected soon.
- Initiated a state level base line study to establish the current scenario of home appliances in the State, and develop focus areas and 3-5 year strategy for REEC.
- Initiated the functioning of REEC:
 - A Steering Committee has been constituted to advise and monitor the progress of REEC. USAID and IRG ECO-III Project are represented in the Committee. Meetings of the Committee are held periodically.
 - Number of educational and awareness activities such as training programs, workshops, exhibitions, amongst students, general public, etc. are being currently undertaken in partnership with number of organizations (government departments and NGOs)
 - Published a book in local language (Bengali) on ‘Procurement and maintenance practices of energy efficient home appliances’, and distributed 50,000 copies in an international book fair in Kolkata city.

REEC at See Tech

- Construction of REEC building by See Tech with its own resources has started to house demonstration facilities
- Completed the procurement of equipments (Thermography equipment, Water Flow Meters) and are being used for field testing. Erection and commissioning of demonstration furnaces and facilities is being undertaken currently.
- Plans to establish an electrical lab on the first floor, and two training rooms with 40 persons sitting capacity each on the second floor are underway.
- Initiated two studies to establish baseline energy consumption in two types of SMEs furnaces (Forging and Heat Treatment) and preparation of best practice guides and case studies. These documents are expected to be ready in March 2010
- Initiated the training activities.
- Annual implementation plan for REEC activities is under development
- Director General of Bureau of Energy Efficiency (Dr. Ajay Mathur) visited See Tech on 29th January, 2010, and appreciated the development of REEC for SMEs
- Plans to develop Field Energy Technicians (FET) to assist Energy Auditors and Energy Managers are being prepared. A three months course for Diploma Holders, Science graduates and personnel from ITIs is being considered.

General

A study tour for REEC staff to a few US Energy Efficiency Centres and organizations undertaken (25 Oct.- 5 Nov. 09)

Date Completed: As of February 2010	
Deliverables Since Last Update:	
<ul style="list-style-type: none"> • Energy Efficiency Guides on Room Air Conditioners, Home Refrigerators and Ceiling fans for WBREDA REEC • Number of key equipments at CEPT and See Tech procured and commissioned. • Various training and awareness activities at all the three REECs initiated. 	
Indicators	
No. of Guides/Reports Produced (Information and Tools): 3	
Date Completed: As of February 2010	
Milestones Reached:	
<ul style="list-style-type: none"> • REEC for home appliances launched by the State Government of West Bengal and WBREDA • Government of West Bengal has sanctioned funds for constructing REEC building. • CEPT has leveraged financial support from Glazing Society of India, Ministry of New and Renewable Energy, Government of India, and Government of Gujarat. which would complement the project support for REEC 	
Government of Gujarat has agreed to provide funds to CEPT for the construction of REEC building.	
Next Steps:	
<ul style="list-style-type: none"> • Completion of REEC building at See Tech, and erection and commissioning of REEC's demonstration furnaces and equipment. • Commissioning of Air Leakage Chamber at CEPT. • Launching of REECs at CEPT and See Tech. • Finalization of WBREDA REEC building plan and construction work of WBREDA REEC building. • Finalization of annual implementation plan/Business Plan for CEPT, See Tech and WBRDEA • Completion of Base-line Study on home appliances for WBREDA REEC • Completion of Technical Documents on Forging Furnaces and Heat Treatment Furnaces for See Tech REEC <ul style="list-style-type: none"> • Assistance to REECs in identification of organizations to leverage existing USAID/APP funding with additional financial and technical resources 	
Proposed Project End Date: 30 June 2010	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Information: Concluded	
<p>This sub-project is funded by the US APP Program Office of the U.S. Department of State. Nancy Ahson (Ahsonnl@state.gov ; +1 202 647 6896) is the point of contact for all information about this project. USAID should not be contacted directly without prior agreement by US APP Program Office.</p>	
Project Description:	
<p>The project plans to support the establishment of one Regional Energy Efficiency Centre (REEC) specializing in a core energy efficiency sector (e.g. home appliances, lighting, motors, building simulation, energy-efficient pumps, high performance glazing and insulation, etc.). The selected REEC would be supported from concept to commissioning as a pilot centre. As part of the process,</p>	

not more than two potential REECs may be provided with technical assistance towards the development of a strategic and business plan for the effective operation of the REEC, to serve the following objectives:

- Enhance energy efficiency awareness and education among energy end-users
- Facilitate showcasing and demonstration of energy efficient products for public at large
- Promote development (incubation) of energy efficient technologies
- Catalyze the development and growth of energy efficiency market in the country
- Encourage research and interdisciplinary collaboration on energy efficiency

REEC will be established within an existing organization and functions on a sustainable business model with a long-term operational plan; is well focused in carrying out its functions and develop collaborative models with academia, energy efficiency service providers, financial institutions, equipment vendors, industry associations, international organizations, etc.

The request for proposal was sent to nine potential organizations. A Committee was constituted for the evaluation of the proposals. A technical memo ([http://www.eco3.org/downloads/008-Establishment of Regional Energy Efficiency Centers \(REECs\)/Technical Report.pdf](http://www.eco3.org/downloads/008-Establishment%20of%20Regional%20Energy%20Efficiency%20Centres%20(REECs)/Technical%20Report.pdf)) captures the process followed to select the organizations that will host the REECs. The Committee shortlisted following four organizations to host REECs and implement the functioning of the Centres:

1. **West Bengal Renewable Energy Development Agency (WBREDA), Kolkata** for establishing REEC with theme on “Energy Efficiency in Domestic Appliances”. Major beneficiaries are expected to be the households, appliance manufacturers, electricity utilities, etc.
2. **SEE-Tech Solutions Pvt. Ltd. (See Tech), Nagpur**, for establishing REEC with theme on “Energy Efficiency in Industrial Furnaces of Small and Medium Enterprises (SMEs)”. Major beneficiaries are expected to be the SMEs, energy auditors, trainers, consultants, furnace manufacturers, etc.
3. **Center for Environmental Planning and Technology (CEPT), Ahmedabad** for establishing REEC with theme on “Energy Efficiency in Buildings and Energy Simulation”. Major beneficiaries are expected to be architects, building engineers, building code enforcement authorities, equipment manufacturers, etc.
4. **Nonferrous Materials Technology Development Center (NFTDC), Hyderabad** with theme on “Energy Efficiency in Electric Motors”. Major Beneficiaries expected are motor end-users and manufacturers.

Based on the post evaluation assessment and the availability of financial resources, three organizations – CEPT, WBREDA and See Tech are being supported to establish REECs out of the four that were shortlisted.

PROJECT STATUS REPORT FORM

Project Number: BATF-07-44	Task Force: Buildings and Appliances
Title of Project: Promotional framework for passive design and solar energy technologies in energy-efficient buildings	
Lead Partner Country: India	
Participating Partner Countries and Organizations: USA	
Project Location (Country, State/Province, City): India	
Project Manager Information Name: Gauri Singh Organization: Ministry of New and Renewable Energy, India Address:	
	Phone: Fax: Email: gauri.ysingh@nic.in
Project Start Date: Sept 2007	Date of Project Status Update:
Actions Since Last Update:	
Date Completed:	
Deliverables Since Last Update:	
Milestones Reached:	
•	
Next Steps:	
•	
Proposed Project End Date: 30 Sep 2010	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Information: Concluded	

PROJECT STATUS REPORT FORM

Project Number: BATF 07-45	Task Force: Buildings and Appliances						
Title of Project: Indian High Tech Buildings Initiative: Data Centers Pilot							
Lead Partner Country: USA							
Participating Partner Countries and Organizations: <u>India</u> : Ministry of Power/Bureau of Energy Efficiency, Confederation of Indian Industry (CII), National Association of Software and Services Companies (NASSCOM). <u>USA</u> : US Department of Energy, US Agency for International Development, Lawrence Berkeley National Laboratory, Alliance to Save Energy. Private sector partners include: Infosys, Schneider Electric (APC), Conzerv, IBM, HP, Network Appliance Systems, Wipro Technologies, Tata Communication, Emerson, Sun, Intel, BT							
Project Location (Country, State/Province, City): USA, California, Berkeley; India, Delhi; India, Maharashtra, Mumbai; India, Karnataka, Bangalore							
Project Manager Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; padding: 2px;">Name: Mark Ginsberg</td> <td style="width: 50%; padding: 2px;">Phone: +1-202-586-1211</td> </tr> <tr> <td style="padding: 2px;">Organization: U.S. Department of Energy</td> <td style="padding: 2px;">Fax: +1-202-586-2096</td> </tr> <tr> <td style="padding: 2px;">Address: 1000 Independence Avenue, SW Washington, DC 20585</td> <td style="padding: 2px;">Email: mark.ginsberg@ee.doe.gov</td> </tr> </table>		Name: Mark Ginsberg	Phone: +1-202-586-1211	Organization: U.S. Department of Energy	Fax: +1-202-586-2096	Address: 1000 Independence Avenue, SW Washington, DC 20585	Email: mark.ginsberg@ee.doe.gov
Name: Mark Ginsberg	Phone: +1-202-586-1211						
Organization: U.S. Department of Energy	Fax: +1-202-586-2096						
Address: 1000 Independence Avenue, SW Washington, DC 20585	Email: mark.ginsberg@ee.doe.gov						
Project Start Date: 01/08	Date of Project Status Update: March 2010						
Actions Since Last Update: <p>Continued collaboration with Indian government agencies, NGOs, industry organizations, industry leaders, and USAID. A presentation on Managing Energy Use in Data Centers (including newly collected Indian benchmark data) was made to the US-India Energy Efficiency Technology Cooperation Conference held at New Delhi November 16-17, 2009.</p> <p>Provided technical support (sources of information/material, and reviewed and commented on emerging documents) to BEE/CII working groups in developing Indian guidelines and standards for electrical and mechanical systems in data centers. In collaboration with BEE, US/AID ECO-III, and industry groups including NASSCOM, provided technical support for the development of a data center benchmarking program; collected initial data, performed analysis, and presented initial results at conference. A written report is underway. A workshop was planned for Mumbai in November 2009 targeted at the financial industry; however, other demands on the local organizer (ECO-III) required that it be delayed.</p>							
Deliverables Since Last Update: <ul style="list-style-type: none"> • Contributed to background paper for 2nd US-India EETCC meeting 							
Date Completed:							

Milestones Reached:

LBNL Hosted an Indian Energy Efficiency Professionals delegation, November 2, 2009

- Presentations on India program and Indian interests and tours (windows test-bed, data center)

Collection and analysis of initial Indian data center energy benchmarks

- Presentation of energy benchmarks at US-India 2nd Energy Efficiency Technology Cooperation Conference (EETCC), New Delhi on November 17, 2009

Meetings with Metro Valley Special Economic Zone (SEZ) developer and design team on November 14 and 20, 2009

Presentations, meetings, and sessions at 2nd US-India EETCC, New Delhi, November 16-17, 2009

Meeting with GreenSpaces developer, Architect and IBM regarding showcase data center, November 19, 2009.

- Identified issues regarding LEED certification

Technology collaboration with Infosys (a leading Indian IT company)

- Presented at Infosys R&D conference at University of Southern California, October 19-20, 2009
- Infosys continues work on Energy Plus and Home Energy Saver Web Interface (ongoing)
- Meetings at LBNL with Rohan Parikh, Head-Green Initiatives and Kumar Padmanabhan of Infosys November 2009
- Summer intern at Infosys returns to LBNL from India after working with Infosys R&D group
- Smart power strip identified for collaborative R&D – potentially used for LBNL project.

Next Steps: Collect and analyze data center benchmarking data. Participate in November Delhi conference. Continue interface with industry working groups (2). Continue to support Infosys, Metro Valley, and Green Spaces developments.

Proposed Project End Date: TBD

Project Already Complete: Yes No

Other Information: **Concluded**

All of the above work is being done in cooperation with USAID ECOIII project. The first phase of the data centers pilot project was carried out in January, 2008. The project leads gathered information on the current status of Indian data centers through visits to several data centers, a charrette-type meeting, and a workshop on improving data center efficiency in India. Recommendations stemming from these efforts include developing information/awareness materials and workshops for the Indian high-tech industry and government; capacity building and training; industry forums to facilitate capacity building and stimulate peer-to-peer information exchange; developing performance indicators and a benchmarking framework; creating a regulatory, standards, and incentives framework; and research/evaluation of specific issues related to the Indian high-tech industry.

PROJECT STATUS REPORT FORM

Project Number: BATF-07-46	Task Force: Buildings and Appliances						
Title of Project: China Building Energy Rating Tool (CBERT)							
Lead Partner Country: Australia							
Participating Partner Countries and Organizations: China							
Project Location (Country, State/Province, City): China							
Project Manager Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Name: Dr Michael Green</td> <td style="width: 50%; border: none;">Phone: +61 262136986</td> </tr> <tr> <td style="border: none;">Organization: Australian Department of Innovation, Industry, Science and Research</td> <td style="border: none;">Fax: +61 262137249</td> </tr> <tr> <td style="border: none;">Address: GPO Box 9839, Canberra City</td> <td style="border: none;">Email: michael.green@innovation.gov.au</td> </tr> </table>		Name: Dr Michael Green	Phone: +61 262136986	Organization: Australian Department of Innovation, Industry, Science and Research	Fax: +61 262137249	Address: GPO Box 9839, Canberra City	Email: michael.green@innovation.gov.au
Name: Dr Michael Green	Phone: +61 262136986						
Organization: Australian Department of Innovation, Industry, Science and Research	Fax: +61 262137249						
Address: GPO Box 9839, Canberra City	Email: michael.green@innovation.gov.au						
Project Start Date: February 2007	Date of Project Status Update: 25 March 2009						
Actions Since Last Update:							
Deliverables and Milestones Reached:							
Next Steps: N/A							
Proposed Project End Date: October 2008	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Other Information: Cancelled							

PROJECT STATUS REPORT FORM

Project Number: BATF-08-47	Task Force: Buildings and Appliances
Title of Project: US-India-China Cities Partnership for Sharing Best Practices on Energy and Environment	
Lead Partner Country: United States	
Participating Partner Countries and Organizations: India (cities of Ahmedabad, Delhi, Chennai, Mumbai, Bangalore, Vadodara, Bhubaneswar, others); United States (cities of Atlanta, Chicago, Denver, Los Angeles, San Francisco, Edison, Columbus, others); China (Shanghai, Hefei, Kunming, Guangzhou, Ningbo and others), US Department of Energy (DOE); Brookhaven National Laboratory (BNL)	
Project Location (Country, State/Province, City): India, Karnataka, Bangalore; USA, California, San Francisco; India, Maharashtra, Mumbai; USA, California, Los Angeles; India, Gujarat, Ahmedabad; USA, Georgia, Atlanta; USA, Ohio, Columbus; USA, Colorado, Denver; India, Tamil Nadu, Chennai; USA, Illinois, Chicago; China, Shanghai; China, Anhui, Hefei; China, Yunnan, Kunming; China, Guangdong, Guangzhou; China, Zhejiang, Ningbo; USA, Pennsylvania, Philadelphia; India, Gujarat, Surat; China, Tianjin	
Project Manager Information Name: Mark Ginsberg Organization: U.S. Department of Energy Address: 1000 Independence Avenue, SW Washington, DC 20585 Phone: +1-202-586-1211 Fax: +1-202-586-2096 Email: mark.ginsberg@ee.doe.gov	
Project Start Date: January 1, 2008	Date of Project Status Update: December, 2010

Actions Since Last Update:

India Activities:

- The APP/BATF project established the “Sustainable Energy Ahmedabad” initiative with the city of Ahmedabad, India and signed a memorandum of understanding on September 25, 2009, to help develop an Energy Plan for 2030 and design green building guidelines for the city owned new buildings. This initiative builds upon the Ahmedabad-Atlanta MOU signed for sharing best practices on energy and environment in March 2008. The project is working with Ahmedabad selected three municipal upcoming buildings to showcase green guidelines and developing an Energy Plan.
- The Indian Ministry of Urban Development requested the APP/BATF project 08-47 to provide technical assistance for developing 1) new satellite towns on the concepts of ‘zero energy cities’, 2) energy efficient urban planning guidelines, and 3) green building guidelines. The Ministry has offered eight satellite towns, around seven Metros in India with geographically and demographically diverse characteristics, to showcase the zero energy community concepts.
- The Indian Ministry of New and Renewable Energy has requested the APP/BATF project 08-47 to pair up Indian Solar Cities with Solar America Cities. Eight of fifteen announced Indian Solar Cities including, Chandigarh, Thane, Kalyan-Dombiwali, Coimbatore, Gandhinagar, Vijaywada, Vishakhapattanam and Rajkot have expressed keen interest in pairing up with appropriate Solar America Cities. Chandigarh is MNRE designated “Model Solar City”, and Thane is very advanced in implementing EE & RE concepts, who have also requested for technical assistance from the project 08-47.
- The APP/BATF project 08-47 will assist Mumbai Metropolitan Region in developing a renewable energy and energy efficiency strategy (Work in collaboration with MTSU/MMRDA, IITB, NEERI and Los Angeles Agencies/Universities). The project will also assist MMRDA in developing Headquarters at the Bandra-Kurla Complex on the green building concepts (work in collaboration with MMRDA Consultants and NREL in developing the building). The project will promote and help implement near zero energy/green communities guidelines and green commercial building guidelines in MMRDA region/cities
- The project will work with the Indian Ministry of Industries and Commerce’s Director of Special Economic Zones (SEZ) to review Green SEZ Guidelines in the quest of taking them towards near-zero energy SEZs. The project will work with one of the SEZs recommended by the Ministry to incorporate concepts of near-zero SEZs in the planning and development process.
- The Project organized a one-day workshop in New Delhi on December 18, 2009, in collaboration with the Jones Lang LaSalle Meghraj highlighting near-zero energy concepts in large real estate and SEZ developments, with participation from developers and SEZs. Discussions highlighted the potential of working on greening the Bangalore International Airport SEZ and another SEZ near Chennai.
- The APP/BATF project 08-47 is working with the City of Surat in developing 1) Sustainable Energy Plan for the City for 2030, 2) Energy Policy for Municipal Operations for 2021, and 3) Green guidelines for municipal buildings (a progressive and sprawling city of ~4.5 million people and area of 326 sq km). The project is also in a process of pairing Surat – one of the applicants of the Indian Solar Cities Program, with one of the Solar America Cities – Philadelphia.

- The APP/BATF project is collaborating with the Times Business Solutions (TBSL) to increase energy/green agenda awareness at the consumer and developer level. The project has been working to expand the Green Agenda section on BrixResearch.com (real estate portal) related to green issues, incentives, surveys, buildings, codes.
- The project is collaborating with the Economic Times in providing energy efficiency and renewable energy related articles and partner for ET real estate conferences. Mark Ginsberg of USDOE and Vatsal Bhatt of BNL put up a presentation highlighting “Economic Prosperity Through Clean Energy Technologies” in the Economic Times Realty Convention 2009 – India Urbanising: Taking on Climate Change and Inclusion, on October 27, 2009 in New Delhi, India.
- This APP/BATF project trained 15 trainers of the All India Institute of Local Self Government (AIILSG) for a week in December 2009. AIILSG will conduct a self supporting training, on energy efficiency and renewable energy for mayors, local government officials and elected members, with in various cities of India. The training will bring local and international experts from the India Green Building Council, the Bureau of Energy Efficiency, the Ministry of Urban Development, and Universities with live case studies and technology exposure.
- The project will partner with the National Institute of Urban Affairs in disseminating energy efficiency and renewable best practices to their networks via online and printed publication and jointly organizing conferences and workshops.
- The Department of Heavy Industry (DHI) of the Ministry of Heavy Industries and Public Enterprises, GOI requested technical assistance on the following issues; 1) energy audit of the heavy industries - starting with a pilot of a couple of industries, 2) propose a program for heavy industries operations on energy efficiency improvements of 25%, like Save Energy Now and help them develop softwares etc, and 3) energy efficiency improvements in housing complexes of these PSEs. BNL will coordinate with DOE and ORNL for follow up activities.
- The project is working with a school each in Ahmedabad, in making them energy smart schools, by including energy efficiency and renewable energy knowledge in curriculum and designing student activities around the energy patrol and eco clubs.
- Delhi Government expressed interest in getting technical assistance for applying Zero Energy Building concepts for the upcoming Delhi Pollution Control Committee building at Rohini, applying geothermal concepts in upcoming buildings and designing landfills to capture methane.
- The APP/BATF project organized various meetings in San Francisco during October 08 with the city officials, sister city committee members, chamber of commerce and other stakeholders for collaborations with Bangalore – path forward with the SF Board of Public Utilities and the Bay Area Council is being discussed along with Bangalore counterparts
- The APP/BATF project organized various meetings in Los Angeles during October 08 with the city officials, sister city committee members, chamber of commerce and other stakeholders for collaborations with Mumbai – path forward with the LA Ports, LA Chamber of Commerce and the City with involvement of Universities is being discussed. LA-Mumbai Sister Cities Committee is keen on providing energy efficiency retrofits for a school in Mumbai and infuse energy efficiency/green education in the curriculum.

- Denver-Chennai dialogue started with both cities taking part in BNL/DOE organized video conference in January 2008 – Denver Sister City officials have formulated a Green Diplomacy document with DOE/BNL technical assistance, which highlights developing a showcase project exemplifying best practices in energy efficiency and renewable energy at a hospital in Chennai, while working collaboratively with the Universities and businesses in Chennai and Denver.
- Chicago officials, sister city committee, businesses and university showed a keen interest in establishing dialogue with Delhi during a high profile partnership specific meeting in March 2008, but due to recent city officials shuffle this activity is seeking new anchors. Promoting this valuable partnership will be a key activity for this APP/BATF project in this year.
- Various other cities in India have shown potential interest in collaborating with US cities for issues of energy and environment, including, Surat, Jamnagar, Rajkot, Ulhasnagar, Bhopal, Indore, Chandigarh, Srirangapattam, Nagpur, Cochin and Kolkata.
- The APP/BATF project constantly seeks effective leverage from other activities supported by DOE, DOS, DOC and USAID and vice-versa to complement and strengthen US agencies' outreach and activities (e.g. collaboration with LBNL/ECOIII for Bangalore based Data centres/NASSCOM partners and establishing local chapter for Green Grid).

China Cities Activities:

- The APP/BATF project 08-47 facilitated signing a memorandum of understanding (MOU) between the regions of Hefei, Anhui Province, P. R. China and Columbus/Franklin County, Ohio, USA, on April 27, 2009. MOU highlights collaboration on “green” initiatives such as water, solid waste and landfills, alternative energy concepts and projects, as well as promote co-ventures and technology exchanges which lead to the reduction in greenhouse gas and carbon footprints of the respective communities. The Columbus/Franklin County delegation met with the Hefei Bureau of Environment Protection to discuss issues of mutual interest, and identified two renewable technologies for collaboration including, the solid waste methane conversion to compressed natural gas and the photovoltaics. After returning from Hefei visit, the Columbus/Franklin County delegation is in a process of establishing a consortium of the public and private institutions, Universities and national laboratories to support the collaborative. The first collaborative initiative would be to transfer the solid waste methane conversion to compressed natural gas for vehicle fuels technology to Hefei, the process first used at the commercial scale at the Franklin County landfill, operated by the Solid Waste Authority of Central Ohio's Green Energy Center.
- Chicago and Shanghai are in a process of establishing an Eco Partnership for collaboration on geothermal, fuel cell, solar technologies and energy exhibition. Academic institutions in both cities collaboratively showcased a hybrid geothermal/fuel cell project in each city. Chicago project, coordinated by the University of Illinois at Chicago (UIC) and the Illinois University of Technology (IIT), completed in July 2009, with knowledge transfer to Tongji University. Tongji University is in a process of identifying a suitable site and will coordinate with Chicago universities to replicate the project in Shanghai. Mayor Daley has encouraged partners in utilizing the knowledge gained for the proposed development at the former Chicago American Iron and Steel Company plant located in the South Lake. The city is supporting the effort from the Mayor's Office and its Sister Cities International partnership.

- Chicago and San Francisco based science and technology museums will help Shanghai Energy Conservation Center in developing a world class exhibition of nearly 3000 square meters for the World Expo 2010. First visit of the experts is planned in the week of August 17, 2009.
- Chicago explored possibilities of collaborative projects with the Director General of Shenyang's "EcoCity" in June 2009. Chicago and Shenyang have been discussing to establish an Eco Partnership.
- Los Angeles has an economic and port partnership with Guangzhou, which they are interested converting into an Eco Partnership, working on Los Angeles' Green Port and Port Sustainability programs. Guangzhou Port officials are expected to visit Los Angeles Port in September 2009 to share knowledge on green port practices.
- New York-Beijing, Denver-Kunming, Philadelphia-Tianjin, and Atlanta-Ningbo partnerships have shown interest in establishing Eco Partnerships, and are in process of establishing mutually interested projects.
- An active alliance with the China International Friendship Cities Association is being worked out for greater outreach in Chinese cities.

Support Conferences:

- DOE/BNL partnered with the Municipalika 2010 - International Conference and Exhibition on Good Urban Governance, held in Ahmedabad, India on January 29-31, 2010, in organizing conference sessions
- DOE/BNL partnered with the All India Institute of Local Self Government in organizing Mayors' International Conference on Sustainable and Safe Cities in Goa for September 7-9, 2009.
- DOE/BNL partnered with the Virtual Energy Forum, the world's premier online-only event held on June 24-25, 2009 for organizing the DOE's Global Green Cities Track focused on the implementation of energy efficient best practices and renewable energy solutions in eight cities around the world.
- DOE/BNL facilitated collaboration with the Sister Cities International (SCI – www.sister-cities.org), under which US cities collaborate with other cities in the world. DOE sponsored Energy Awards in the Annual Conference held on July 29-Aug 1, 2009 in Belfast, promoting city based energy partnerships.

Deliverables Since Last Update & Date Completed:

- Established and maintaining the US-India-China Cities Partnership involving various stakeholders
- Developed "Integrated and Adaptable Green Building Guidelines for Indian Cities" for commercial and residential buildings
- Developing "Integrated and Adaptable Green Urban Development Guidelines for Indian Cities"
- Archived talks and presentations for the Virtual Energy Forum can be watched free at: www.virtualenergyforum.com - December 10th and 11th, 2008
- Municipalika talks, presentations, conference papers and proceedings can be downloaded from www.municipalika.com. BNL took pictures of the DOE booth - 29 Jan - 31 Jan, 2009.
- SCI annual conference and awards information can be downloaded from this link: www.sister-cities.org/programs/awards.cfm - July 29-Aug 1, 2009.
- A part of TBSL/BNL activities can be found at www.brixresearch.com/brixresearch/green_agenda.html. As per TBSL, about 10% of site traffic spends about 2 minutes on the green section.
- A Green section has been started in the magazine: Indian Real Estate – Quarterly magazine on real estate, BNL/DOE contributed with an article.

Deliverables Since Last Update & Date Completed:

- This APP/BATF project organized/chaired a panel discussion and three paper sessions focusing on India, Cities and Energy in the Annual Conference of the Association of American Geographers in Las Vegas during March 22-27, 2009.

Milestones Reached:

- Developed “Integrated and Adaptable Green Building Guidelines for Indian Cities” for commercial and residential buildings
- Developing “Integrated and Adaptable Green Urban Development Guidelines for Indian Cities”
- The APP/BATF project established the “Sustainable Energy Ahmedabad” initiative with the city of Ahmedabad, India and signed a memorandum of understanding on September 25, 2009, to help develop an Energy Plan for 2030 and design green building guidelines for the city owned new buildings.
- Hefei-Columbus signed MOU for sharing lessons learned on energy and environment in April 2009
- Atlanta – Ahmedabad signed MOU for sharing best practices on energy and environment in March 2008
- Ahmedabad legislated energy audits of energy supply system in April 2008
- Ahmedabad Municipal Corporation budget 2009-10 designated exclusive money for energy efficiency projects in the municipal buildings.
- Surat is working with this APP/BATF project for technical assistance in developing 1) Sustainable Energy Plan for the City for 2030, 2) Energy Policy for Municipal Operations for 2021, and 3) Green guidelines for municipal buildings
- The Ministry of Heavy Industries and Public Enterprises requested this APP/BATF project for technical assistance on the following issues; 1) energy audit of the heavy industries - starting with a pilot of a couple of industries, 2) propose a program for heavy industries operations on energy efficiency improvements of 25%, like Save Energy Now and help them develop softwares etc, and 3) energy efficiency improvements in housing complexes of these PSEs. The project will coordinate with DOE and ORNL for follow up activities.
- The APP/BATF project has been working with the Times Business Solutions of the Times of India Group to promote green energy solutions to the real estate professionals, developers and general public. The project helped expand the Green Agenda section on the BrixResearch.com (real estate portal) related to green issues, incentives, surveys, buildings, codes.
- This APP/BATF project facilitated establishing the Energy Awards in the Annual Conference of the Sister Cities International (SCI – www.sister-cities.org), under which US cities collaborate with other cities in the world.
- This APP/BATF project facilitated MOU between the Association of Professional Geographers India (APGI) to collaborate with the Association of American Geographers (AAG) on March 25, 2009 in Las Vegas. With this project’s support APGI commenced an initiative - “Professional Geographers for Sustainable Cities” in collaboration with AAG, which will involve professional geographers of India and various universities and schools.

Next Steps: Continue Technical Assistance and outreach activities for establishing, maintaining and enhancing the US-India-China Cities Partnership for Sharing Best Practices in Clean Urban Development, Energy and Environment, involving various stakeholders.

Proposed Project End Date: TBD

Project Already Complete: Yes No

Other Information: Move to IPEEC, SBN

PROJECT STATUS REPORT FORM

Project Number: BATF-08-48	Task Force: Buildings and Appliances
Title of Project: Existing Building Renovation in China	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: China Association of Science and Technology (CAST), US Department of Energy (USDOE) with support from Lawrence Berkeley National Laboratory (LBNL) and White Box Technologies	
Project Location (Country, State/Province, City): China	
Project Manager Information	
Name: Mark Ginsberg	Phone: +1-202-586-1211
Organization: U.S. Department of Energy	Fax: +1-202-586-2096
Address: 1000 Independence Avenue, SW Washington, DC 20585	Email: mark.ginsberg@ee.doe.gov
Project Start Date: August 1, 2008	Date of Project Status Update: Mar 2010
Actions Since Last Update:	
The retrofit design was finalized in late Summer, with construction beginning in late Fall 2009. As of February 2010, the work was still focused on the floor-by-floor structural strengthening of the building, with the energy efficiency improvements to the building envelope, primarily adding insulation to the walls and roofs and replacing the windows expected to begin in early Spring (April 2010). This will be followed by the installation of the highly energy efficient lighting system, but a more conventional air source cooling system rather than the water source radiant cooling system that was discussed at one point.	
Deliverables Since Last Update:	
None	
Date Completed: N/A	
Milestones Reached:	
Next Steps:	
Follow retrofit construction process and evaluate building energy performance after completion, expected June 2010.	
Proposed Project End Date: October 2009	Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Other Information: Move to IPEEC, SBN

The China Association of Science and Technology (CAST) has a 20-year-old office building that has received approval for a major renovation from the National Development and Reform Commission (NDRC) and the State Council. This building is similar to thousands across China that will have to be renovated to meet current standards of amenity and service. The goal of this project is to demonstrate how energy efficiency can be incorporated into such renovations so that the building's energy use is minimized or even lowered from previous usage. Such a demonstration will provide an example of "green retrofit" to a very large buildings market that has not been focused on to date.

This project fits within BATF Project 5 (Improvements to Existing Buildings)

PROJECT STATUS REPORT FORM

Project Number: BATF-08-49	Task Force: Building and Appliances
Title of Project: GreenSpaces™-IT / ITeS Special Economic Zone	
Lead Partner Country: India	
Participating Partner Countries and Organizations: USA, Australia, Japan, Canada & China Please see www.greenspaces.in for technology partner list and 20 eminent Hon Advisory Board members from all over the World.	
Project Location (Country, State/Province, city): 15/1,Main Mathura Road, Faridabad, Haryana, India. It is located about 6KM's from Delhi, on the National Highway 2 to Agra.	
Project Manager Name: Mr. Kamal Meattle, CEO, Selecto Systems Private Limited, Address: Paharpur Business Centre, Nehru Place Greens, New Delhi 110019 India <div style="float: right; text-align: right;"> Phone: +91 11 2620 7748 Fax: +91 11 2620 7700 Email: meattle@pbcnet.com </div>	
Project Start Date: September 2001	Date of Project Status Update: 30 th October, 2010
Action Since Last Update: i.e.after March 2010 update	
Milestones	Remarks with status (Month & Year)
Financial Closure	<p>The total project cost for the 1.75 million ft² GreenSpaces office park is US \$259 million, which has in-principle committed from equity and debt investors.</p> <p>In May, 2008, for equity, we had signed a Term Sheet with a Chicago based Private Equity Fund.</p> <p>They conducted legal, financial and title due diligence and were ready to go ahead</p> <p>However due to market turmoil, Private Equity firm backed off at the last moment in November 2008, as they got an opportunity to invest in distressed assets in USA giving higher returns.</p> <p><u>Current Equity Investors</u></p> <p>International Finance Corporation, a World Bank affiliate</p> <p>M+W Group, Stuttgart, Germany</p> <p>A High Net-worth Individual</p> <p>A Fortune 100 U.S company</p> <p>Promoter group entities</p>

	<p><u>For Debt</u></p> <p>Overseas Private Investment Corporation(OPIC), a US Federal Government Agency, has conducted preliminary due diligence and expressed keen interest in providing \$109 million as debt through ECB, with a condition that the 25% of the shareholding should be from the US Companies/resident. (refer to their letter dated January 2009 that is attached)</p> <p>However, OPIC has recently expressed its willingness to consider relaxing this condition of 25% US Shareholding</p> <p>We expect this proposal to be formally cleared by OPIC in their Board meeting in March 2011.</p>
Marketing	We expect to have some letter of intents for rentals for the project in 2011. We have been advised by CBRE, Cushman& Wakefield, JLL and others, not to market the project until we have in-principle approval for funds.
Master Plan Submission to Haryana Government	October, 2008 Expected Approval – November 2010
Application for Direct Access from National Highway to National Highway Authority of India(NHAI)	February, 2008 Expected Approval – December 2010
Life Cycle Cost (LCC) Report	<p>June 2009.</p> <p>The Energy & Research Institute(TERI) has conducted an analysis of our design and plans and come out with the following conclusion:</p> <ul style="list-style-type: none"> • The initial incremental cost for a green building is approximately + 58%. • There is a 74% reduction in the EPI of the green building as compared to the conventional building. • Approximately 36,000 tonnes of CO2 emissions shall be avoided by the green building on the demand side. This is excluding PV, generation of electricity from bio gas produced in bio reactor and from regenerative elevators.
Application to Ministry of Commerce, GOI, to import Electrical Battery powered vehicles without duty in GreenSpaces SEZ. These vehicles will be connected to a smart grid so that they can be used as a UPS and also be charged by PV power.	June, 2009 and pending

<p>Bore-well & its temperature in Celsius at GreenSpaces site for Geothermal applications:</p>	<p>We have taken permission and developed test borewells at the GreenSpaces site and taking daily temperature, as under for Geothermal applications: Temperature is in degrees centigrade.</p> <table border="1" data-bbox="785 331 1396 539"> <thead> <tr> <th colspan="5">Borewell Water Temperature Readings</th> </tr> <tr> <th>Borewell#</th> <th>Depth (ft)</th> <th>Reading Time</th> <th>Water Temp</th> <th>Ambient Temp</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>500</td> <td>0900</td> <td>32</td> <td>20.5</td> </tr> <tr> <td>2</td> <td>460</td> <td>0900</td> <td>32.5</td> <td>21.5</td> </tr> <tr> <td>3</td> <td>300</td> <td>0900</td> <td>29.5</td> <td>22</td> </tr> </tbody> </table> <p>We also propose to deploy Ground source heat Pumps for our cooling load. The technical assistance is provided by Oakridge National Laboratory thanks to U.S. DoE.</p>	Borewell Water Temperature Readings					Borewell#	Depth (ft)	Reading Time	Water Temp	Ambient Temp	1	500	0900	32	20.5	2	460	0900	32.5	21.5	3	300	0900	29.5	22
Borewell Water Temperature Readings																										
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1	500	0900	32	20.5																						
2	460	0900	32.5	21.5																						
3	300	0900	29.5	22																						
<p>APP Flagship Review</p>	<p>As appointed by APP, in July, 2009, Mr. Peter Castellas, Managing Director of Cleantech AustralAsia, has conducted a review of the GreenSpaces Project and has met its key Stakeholders and interviewed them and also Conducted a survey.</p>																									
<p>Showcase at Cleantech, Boston, New Delhi and Indian Green Building Council Annual Meet in Hyderabad, India 2009 and in Chennai, October2010</p>	<p>October 2010-Participated in Indian Green Building Congress and showcased the GreenSpaces project.</p> <p>September, 2009-Participated at the Cleantech Boston Summit at Boston, USA and represented Indian Cleantech Industry and showcased the GreenSpaces Project.</p> <p>September 2009-Participated in the Indian Green Building Council meeting in Hyderabad, India.</p> <p>October 2009-Featured as a star Clentech investment opportunity at Cleantech, New Delhi, India</p> <p>October 2010-Participated and was featured at Indian Green Building Council meeting in Chennai, India.</p>																									
<p>Influence on Government policies – All SEZs to be Green</p>	<p>We, being an APP flagship project, and also a SEZ, Were invited by Ministry of Commerce, Ministry of Power, Ministry of New & Renewable Energy & Bureau of Energy Efficiency, Government of India to present the GreenSpaces Project especially in regard to energy efficiency, water & waste management to all the SEZ developers of India.</p> <p>Our presentation was well received by all the participants and the Government of India representatives.</p> <p>Ministry of Commerce and Ministry of New &</p>																									

	<p>Renewable Energy Secretaries were encouraged by the results seen at GreenSpaces that they have decided that all the new as well as existing SEZs should be certified Green in order to claim government incentives.</p> <p>In this regard, the Ministry of Commerce and Industry has issued draft guidelines for comments, comments received by them and discussed with stake holders and the final policy is under finalization and to be announced soon.</p>
Total Out – turn Cost Review (TOC)	<p>We have recently commenced review of TOC and are exploring newer technologies and sustainable materials.</p> <p>Our aim is to reduce the cost and/or improve energy efficiency from 74% to a higher number.</p> <p>Example: Thanks to an introduction by IBM, we are exploring high performance glass of Serious Materials Inc., USA and we are evaluating use of the same to find out the energy savings as well as payback period. We have had a meeting with their Senior Vice President, Mr.Mark Mitchell on October 27, 2010 at our office in New Delhi.</p> <p>We expect the energy efficiency to increase to well over 77% for the GreenSpaces Project.</p>
Investments by Technology Partners	<p>We are making efforts to persuade our technology partners to invest in the GreenSpaces project and to reduce costs, based on the down turn in the economy and to offer more cost effective solutions.</p>
New products – Radiant Cooling, Vacuum Toilets, Phase change materials, High Voltage DC, Vehicle to Grid (V2G), Heat reflecting paints	<p>We are now exploring the idea of using radiant cooling in place of Under-floor air-displacement system, as it may reduce our energy requirement as well as the cost.</p> <p>Also exploring the option for using: Reduced noise Vacuum toilets for saving water, Phase change material to help regulate the temperature to assist air conditioning; High Voltage DC power instead of AC for Data Center, Vehicle to Grid (V2G) to use the vehicles batteries as UPS – Smart Grid; Water cooled chips instead of conventional Air-conditioning for Date centers Indoor plants in Hydropon culture Use of Vertical green walls LED indoor and external lighting</p>
Data Centre	<p>We are targeting Power usage effectiveness(PUE) of 1.35 or better in Data Centre.</p> <p>Further, we will not require any cooling in Data Centre for cloud computing.</p>

<p>Launch of GreenSpaces Challenge</p>	<p>We have recently launched GreenSpaces Challenge www.greenspaces.in/challenge</p> <p>GreenSpaces Challenge online portal invites creative and innovative ideas, products and services from anywhere in the world that will reduce cost and/or improve energy efficiency.</p> <p>The ideas and thoughts will help minimize the impact of commercial buildings on the environment by minimizing energy usage.</p> <p>It will also help to develop a handbook of ideas to reduce carbon foot print.</p>
<p>Launch of GreenSpaces Ideas</p>	<p>We have recently launched www.Greenspaces.in/ideas</p> <p>For anyone to share ideas for reducing energy, water and waste.</p>
<p>Research on plants for IAQ at Paharpur Business Centre(PBC), 21, Nehru Place Greens, New Delhi 110 019, India and</p> <p>Visit of scientists from Lawrence Berkeley National Lab, USA in 2010 for IAQ validation</p>	<p>PBC has successfully conducted Technology Research in the area of Indoor Air Quality using three types of green plants, which absorb Carbon dioxide, VOC, microbial organisms and give out Oxygen, reducing the need for fresh air in the building & hence reducing costs, while meeting the Ventilation standards of ASHRAE.</p> <p>There are separate and unique plants for day and night use.</p> <p>Further research is going on for reducing the number of plants per person from 4 to 2 and hence costs.</p> <p>Plant leaf cleaning system is being developed to reduce maintenance requirements.</p> <p>Growing these plants in Hydroponics is being tested.</p> <p>While maintaining the IAQ standard, Paharpur.</p> <p>Business Centre is operation at a ventilation rate of 15.3 CFM per person as against 20 CFM suggested by ASHRAE considering ventilation system efficiencies.</p> <p>Minimum ventilation rate suggested by ASHRAE 62.1:2007 is 11.8 CFM per person.</p> <p>This means we are operating at 30% over minimum ventilation rate but 23% below the ventilation rate suggested by ASHRAE considering ventilation</p>

system efficiencies.

Operation at 30% over minimum ventilation rate gives us one credit in LEED certification of our building under Existing Building category.

Operation at lower ventilation rate gives us energy saving in term of reduced fresh air load on HVAC system.

We have identified the following parameters that have an effect on IAQ. We test these at regular intervals to ascertain the IAQ in the building.

Carbon Dioxide –CO₂

Carbon Monoxide –CO

Sulphur Dioxide –SO₂

Nitrogen Oxides –Nox

Ozone –O₃

Oxygen O₂

Total volatile Organic Compounds –TVOC

Formaldehyde

Toluene

Benzene

Trichloroethylene

Particulate Matter PM₁₀, PM_{2.5} & PM₁

Yeast & Moulds

Streptococcus faecalis

Staphylococcus aureus

Aerobic Plate Count

Hydrogen Sulphide H₂S

Lead

Aldehyde

Acrolene

Propion Aldehyde

	<p>Propene</p> <p>Acetaldehyde</p> <p>Our IAQ system & result are under validation by Lawrence Berkeley National Lab from USA.</p> <p>This work has been very kindly funded by grants to LBNL by DoE, USA</p> <p>The lab has collected indoor air quality samples from our office building in first week of Jan, 2010.</p> <p>The results are very encouraging and some more tests have been proposed by LBNL and are being considered by DoE USA for additional grants to LBNL for completing this work.</p>
<p>PBC will be USGBC LEED (Existing Building – Operation & Maintenance) Platinum certified by December 2010.</p>	<p>PBC™ - STIP is a retrofitted building & with the goal of maximizing operational efficiency while minimizing environmental impacts, PBC™ - STIP is targeting to be USGBC LEED (Existing Building – Operation & Maintenance) Platinum certified by end 2010.</p> <p>It is expected to be the 1st retro fitted USGBC certified platinum building in India.</p> <p>For more information please visit our web site is www.pbcnet.com</p>
<p>PBC is certified by Bureau of Energy efficiency, Ministry of Power, Government of India as a 5 star Energy efficient Building</p>	<p>BEE has certified PBC as a 5 star rated building in the BPO category in October 2010.</p>
<p>Awards to PBC in the field of conservation of energy, water & entrepreneurship</p>	<ul style="list-style-type: none"> - 11th National Award for Excellence in Energy Management by Confederation of Indian Industries(CII) at the 9th Energy Efficiency Summit, 2010 In September'10 - Received G-Cube Shrishti Award for Good Green Governance on April 22nd 2010 for our Environmental Initiatives. - Mr. Kamal Meattle, CEO, Paharpur Business Centre was honored with Asia Pacific Entrepreneurship Award 2009 for “Outstanding Entrepreneur” in December 2009. - Received National Energy Conservation Award for “Energy Conservation Practices in Office Building Sector” in December 2009 from Bureau of Energy efficiency (BEE). - Received Runner’s up position for “Corporate Social Responsibility” category from Cityscape Real Estate India in December, 2009. - Received National Award for “Excellence in Water Management” from CII in December, 2009.
<p>Deliverables Since Last Update: As Above Date Completed: As Above</p>	

Milestones Reached: As Above	
<p>Project Requests to : The APP Partner countries are requested to provide information /ideas / technical support through GreenSpaces Challenge www.greenspaces.in/challenge in the field of Solar Photovoltaic Cells, Solar concentrators, Re-generative Elevators, Efficient Lighting systems including LED lighting, Waste water treatment, generating electricity using fuel cells from Bio-Methane produced from Human Excreta and food waste, Under floor Air-conditioning systems, Heat Reflective Paints, Efficient Building Automation System, Electrical Vehicles, /Health Club equipment that produce energy rather than heat – example bicycles, External Shading devices, Ultra Green Data Centre with water / liquid CO2 / Ammonia cooling as alternatives and introduce us to equipment / material / technology suppliers/partners to reduce the cost of the building project and or to improve energy efficiency.</p>	
<p>Next steps: Continue the Project bilaterally through India & US Government. Finding Cost Reduction / energy efficiency improvement technologies and products with APP assistance and through www.greenspaces.in/challenge</p>	
<p>Financial Closure – APP introduction to Sustainable funds will be welcome Building Facility Management letter of Intent Market Feasibility Review Letter of Intent from Prospective Clients Architects starting Detailed Design Issue of Construction Documents Start of Construction Start of Leasing for Day / Night and Continuous use of facility – preferably as a fully furnished and serviced LEED / Griha / BEE Monitoring Continuous feedback from Hon. Advisory Board members Completion Certificate LEED /Griha Certification LEED /Griha Post Commissioning Monitoring Setting up of a Dash Board for public visibility of building performance at www.greenspaces.in Report to the Task Force giving feed –back. Occupation of Facility Continuous Review of building Performance</p>	
<p>Proposed Project End Date: March, 2014 Subject to financial closure by March, 2011. Note: we are very confident of making this Project happen and be an exemplary project for others to follow.</p>	<p>Project Already Complete: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>Other Information: Concluded</p> <ol style="list-style-type: none"> 1. We thank U.S. Department of Energy, DoE, for their exceptional support to GreenSpaces as a flagship project by providing grants to ORNL for Geothermal Cooling, LBNL for Data Centre & verification of Indoor Air Quality. 2. We thank U.S. Department of Energy, DoE, for helping in the process of setting up an Indian Chapter of International Ground Source Heat Pump Association (IGSHPA). This will be able to provide training and support for this activity in India. Today, the knowledge and expertise is simply unavailable in India. 3. We further request U.S. Department of Energy, DoE, for 1) providing a grant to NREL to assist us with selection of solar concentrators/ PV systems and 2) for validating the Energy Modeling of GreenSpaces, to check if further refinements / improvements are possible, 3) providing grants to LBNL to do further testing at PBC for IAQ and also for bacteria and Fungus that affects the health and productivity of occupants of the building. 	

PROJECT STATUS REPORT FORM

Project Number: BATF-09-50	Task Force: Building and Appliances
Title of Project: Building Energy Performance Certification Proposal	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: China	
<ul style="list-style-type: none"> • United States partners: National Fenestration Rating Council (NFRC), WinBuild, Inc., Association of Industrial Metallizers, Coaters and Laminators (AIMCAL), International Window Film Association (IWFA), US-Department of Energy, North American Insulation Manufacturers Association • China: Research Institute of Standards & Norms(RISN), Ministry of Housing Urban-Rural Development (MOHURD); China Building Material Academy (CBMA), China Academy of Building Research (CABR) 	
Project Location (Country, State/Province, City): China	
Project Manager Information	
Name: Garrett Barnicoat	Phone:
Organization: US Department of State	Fax:
Address: Washington, DC; USA	Email: barnicoatge@state.gov
Project Start Date: 9/15/2008	Date of Project Status Update: December 2010

Actions Since Last Update:

- **May 20, 2009:**
JGJ/T 151 -2008, copy of the simulation standard translated to English to determine the difference between the existing standard.
- **June 2nd, 29th and 30th, August 30th, 2009:** Web conference with CBMA, WinBuild and Kelly Tan to work on the simulation manual which is to include the difference between the NFRC and the Chinese simulation procedure. This manual will be used for the train the trainer workshop for THERM and WINDOW modelling.
- **September 2nd, 2009:** The linear transmittance calculation procedure was provided to CBMA for inclusion in the simulation manual.

Observation:

- **Fenestration Product Simulation Standard:** The Chinese simulation standard JGJ/T 151 - 2008 was already finalized before the start of the project. This standard has become effective May 2009. Based on the finding the group worked on preparing the simulation manual which would list both the Chinese as well as the NFRC simulation procedure.
- **Thermal Transmittance Testing Procedure Using Hot Box:** The Chinese fenestration thermal transmittance test procedure GB/T 8484-2002 is the standard used by the Chinese testing laboratory. The standard has wide variance between the NFRC/ASTM testing procedure as well as the ISO 12567 test procedure. The group is still to decide how to proceed further as several laboratories in China have hot box built in compliance with the Chinese standard. CBMA would not like to switch to NFRC/ASTM method as that will put them in non-compliance with the Chinese standards requirement.

Deliverables Since Last Update: none

Date Completed:

Milestones Reached: NA

Next Steps: July 1st, 2009 till September 30th, 2009:

- Simulation Manual to be completed by September 30th, 2009-09-13
- Simulation software train the trainer manual to be completed, November 30, 2009.
- RSIN to provide details on the task completed per list including information on the list of applicable Building Certification standards, July 30, 2009.

Proposed Project End Date: December 2012

Project Already Complete: Yes No

Other Information: **Concluded**

PROJECT STATUS REPORT FORM

Project Number: BATF-09-51	Task Force: Building and Appliances						
Title of Project: Improving Energy Efficiency in Buildings through Improved Operations							
Lead Partner Country: China							
Participating Partner Countries and Organizations: ICF International (US and China) China Ministry of Housing and Urban-Rural Development (China) China Academy of Building Research (China) China Standard Certification Center (China) Q&S Engineering (US)							
Project Location (Country, State/Province, City): China, Guangdong, Guangzhou; China, Sichuan, Chengdu; China, Guangdong, Shenzhen; and up to 7 additional cities.							
Project Manager Information <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; padding: 2px;">Name: Kevin Schwartz</td> <td style="width: 50%; padding: 2px;">Phone: +1 202 647 6895</td> </tr> <tr> <td style="padding: 2px;">Organization: US Department of State</td> <td style="padding: 2px;">Fax: +1 202 647 0191</td> </tr> <tr> <td style="padding: 2px;">Address: Washington, DC; USA</td> <td style="padding: 2px;">Email: schwartzkm@state.gov</td> </tr> </table>		Name: Kevin Schwartz	Phone: +1 202 647 6895	Organization: US Department of State	Fax: +1 202 647 0191	Address: Washington, DC; USA	Email: schwartzkm@state.gov
Name: Kevin Schwartz	Phone: +1 202 647 6895						
Organization: US Department of State	Fax: +1 202 647 0191						
Address: Washington, DC; USA	Email: schwartzkm@state.gov						
Project Start Date: September 1, 2008	Date of Project Status Update: September 14, 2009						

Actions Since Last Update:

The project aims to reduce energy use and emissions in existing buildings in China by substantially leveraging the approach and technical resources of a market-based initiative. This project will improve energy efficiency in existing buildings in China through no-cost and low-cost operational best practices and limited technology upgrades, drawing on ICF International's seven-plus years of on-the-ground experience supporting the EPA eeBuildings program.

During this reporting period, ICF has completed development of its program infrastructure that will support the city-by-city implementation approach. This included development of tools and resources for a multi-city implementation model. The key program tools and resources for target cities includes a revised Building Performance Monitoring Tool (BPMT), an excel-based tool to monitor and analyze building consumption data, training presentation materials, an automated building opportunity assessment tool, and a building management guidebook for facilities staff. The program has used these tools and resources to support program activities in three Chinese cities, and will continue to evolve these tools and resources while expanding the program offering to seven additional cities in the coming months.

Since the last update, ICF, along with its local implementation partner, China Academy of Building Research (CABR), has begun implementation of the program model in two initial cities: Chengdu and Guangzhou. In May, ICF and CABR met with prospective program partners, including private sector property management companies, government construction agencies, building research institutes, and local universities in Guangzhou and Chengdu to recruit potential partners and plan program activities.

In June, ICF delivered training to the Chengdu Property Management Association (CDPMA) that included an overview of the financial value of operational improvements, instructions on tracking building energy performance, and guidance for no-cost and low-cost operational improvement implementation. ICF delivered training, tools, and resources to 46 Chengdu property managers representing 214 buildings and 4.4 million square meters of building floorspace. The program activities were attended by local press, which distributed both video and newspaper coverage. Following this, ICF conducted opportunity assessments for select buildings in Chengdu and will share recommendations for improving energy performance with CDPMA and its members.

In August, ICF delivered the program model to partners in Guangzhou, including training for 78 property managers and building engineers responsible for over 923 buildings amounting to over 5 million square meters of floorspace and opportunity assessments for selected buildings. In July and August, ICF conducted selected opportunity assessments and partner recruitment activities in Shenzhen to schedule program activities for the coming fall.

Date Completed:

Deliverables Since Last Update:

1. Final No-Cost and Low-Cost training presentation (June 2009)
2. BETA Building Performance Monitoring Tool (June 2009)
3. Draft No-Cost and Low-Cost Energy Saving Guidebook (June 2009)
4. Financial Value Training (June 2009)
5. Energy Performance Monitoring Tool Training (June 2009)
6. Building recruitment folder (June 2009)
7. Chengdu Property Management Association (CCDPMA) workshop resource folder (June 2009)
8. News coverage of the Chengdu Property Management Association Event (June 2009)
9. BETA Automated Opportunity Assessment (September 2009)
10. Guangzhou workshop resource folder (September 2009)

Date Completed: see above**Milestones Reached:**

Completed key outputs for Phase 1, including:

- Selection of target cities;
- Prioritization of cities for implementation;
- Identifying members of the building community in target cities;
- Recruiting key partners; and
- Completion of a set of tools for training and implementation in program cities, including case studies, the BPMT, Opportunity Assessment tool, training presentations, and guidebook.

Contributed to progress towards key outputs for Phase 2, including:

- Conducted building recruitment activities in Chengdu, Guangzhou, and Shenzhen;
- Delivered program model in Chengdu and Guangzhou, including training on building performance monitoring and no-cost and low-cost measures; and
- Developed plans for activities in Shenzhen.

Next Steps:

- Continue program activities in Chengdu, Guangzhou, and Shenzhen
- Conduct workshop in Chengdu in November (in coordination with the Western China Property Mangers Association Workshop) to provide additional support in implementation of energy-saving measures and identify possible case studies.
- Initialize building recruitment activities and implementation in additional cities
- Revise tools and resources for dissemination to additional cities as needed
- Begin preparation of documenting results and recognizing achievement in participant buildings

Proposed Project End Date: August 31, 2010**Project Already Complete:** Yes No**Other Information:** Move to IPEEC, SBN

PROJECT STATUS REPORT FORM

Project Number: BATF-09-52	Task Force: Building and Appliances
Title of Project: Implementation of Building Energy Codes in China	
Lead Partner Country: U.S. and China	
Participating Partner Countries and Organizations: Leading organization: Pacific Northwest National Laboratory (PNNL of U.S. Department of Energy); Collaborators: China Academy of Building Research (CABR, China), Beijing Energy Efficiency Center (BECon, China)	
Project Location (Country, State/Province, City): Ningbo (Zhejiang Province) and Changchun (Jilin Province), China	
Project Manager Information	
Name: Garrett Barnicoat	Phone: +1 202 647 6895
Organization: US Department of State	Fax:
Address: Washington, DC; USA	Email: BarnicoatGE@state.gov
Project Start Date: September 30, 2008	Date of Project Status Update: October 10, 2010
Actions Since Last Update:	
<ol style="list-style-type: none"> 1. Training materials of building energy codes (BEC) were developed by CABR, with inputs from PNNL; 2. A research report about China's energy policy of building energy efficiency was drafted by BECon; 3. Two focus group meetings were held in pilot cities to understand the background information (such as the education level of the sector, certification status, current training activities) of key stakeholders, their perceptions of online training, and their comments about the developed draft training materials; 4. PNNL discussed with the World Bank a possible collaboration to promote building energy efficiency in the small town of Ningbo (Ningbo is one of two pilot cities of this APP project); <ol style="list-style-type: none"> a. PNNL visited Chunhu and talked to local officials; 5. With a support from U.S. Department of Energy, PNNL presented a conference paper to introduce the implementation of building energy codes in China at the American Energy-efficient Economy Summer Study for Building Energy Efficiency; and 6. PNNL discussed collaborations to promote the implementation of building energy codes in China with China Sustainable Development Program, a potential funder for the following-up building energy codes activities in China. 	
Deliverables Since Last Update: 1) The training presentation slides for residential buildings in the cold climate zone; 2) the training presentation slides for residential buildings in hot-summer-and-cold-winter climate zone; 3) the training presentation slides for public buildings; 4) the training presentation slides for acceptance codes; 5) three technical codes; 6) a research report on China's energy policies for building energy efficiency; 7) a conference paper on the implementation of building energy codes in China (co-funded by a U.S. DOE project); 8) two focus group meetings in two pilot cities, with more than 30 participants;	
Date Completed: The above deliverables were finished in September 2010.	

Milestones Reached: 1) Training materials of Chinese building energy codes were drafted; 2) Two focus-group meetings were held to collect inputs from key stakeholders about training materials; 3) PNNL discussed with China Sustainable Development Program for possible collaboration for promoting building energy codes activities in China.

Next Steps: 1) The project team will refine training materials with inputs gathered from focus group meetings; 2) The on-line training website will be uploaded with the revised training materials and project reports for public comments; 3) The website will be launched in December; 4) A counter will be set up to record the number of people who visit the website; 5) The training materials will be further revised based on on-line inputs; 6) The project report will be finished and distributed.

Proposed Project End Date: February 28, 2011

Project Already Complete: Yes No

Other Information: **Completed**

Due to the late release of the updated Chinese building energy codes for residential buildings in cold zones and hot-summer-and-cold-winter zones, the project asked for a three-month no-cost extension, and will be concluded on February 28, 2011.

PROJECT STATUS REPORT FORM

Project Number: BATF-09-53	Task Force: Building and Appliances
Title of Project: International ZEH Dialogue (Flagship Project) <i>*note proposed change to zero energy housing (ZEH) following workshop Washington workshop and definition discussion with IEA</i>	
Lead Partner Country: Canada	
Participating Partner Countries and Organizations: US (co-chair), Japan, China, Australia, Korea and India	
Project Location (Country, State/Province, City): n/a	
Project Manager Information Name: Amanda Kramer Organization: Environment Canada Address: 200 Sacre-Coeur, Gatineau, Quebec Phone: 819-956-4875 Fax: Email: amanda.kramer@ec.gc.ca	
Project Start Date: April 2009	Date of Project Status Update: March 2010
Actions Since Last Update: <ul style="list-style-type: none"> - Biweekly calls between Chair and Co-Chair in the planning of a Lenders Workshop. - Development and delivery of a Lenders Workshop as follow-up to the Washington workshop held in September 2009. Financing was identified as an issue for ZEH. Dialogue with financial institutions to examine opportunities to overcome barriers. - Roadmap development – draft roadmap will be circulated in advance of the Vancouver BATF meeting for comment by all APP countries. Roadmap will be presented in Vancouver. - Funding to an exhibit at Shanghai Expo. Project is collaboration by Canada’s Insightful Healthy Homes, Shanghai Hui Sheng Development Company and the Shanghai Municipal Government. - Funding support to the 2010 China Beijing International Energy Efficiency & Zero Energy Building Envelope Conference. Confirmed participants from project include US DOE, Environment Canada, WinBuild, Inc., Energy Efficiency Exporters Association, Insightful Healthy Homes, Minto Communities, Carleton University, McGill University and Canada Cleantech. - Development of a ZEH workshop planned for March 25 as part of the Vancouver BATF meeting and held in conjunction with a design charrette for the Canada-China Sustainable Condo and a technology charrette for the proposed APP Minto Communities ZEH Community. - Development of a google map showcasing APP country ZEH case studies. Map will be launched at Vancouver BATF meeting in March 2010. - Planning for demonstration projects / workshops that will take place in Year Two (April 1, 2009-March 31, 2011). Projects are being explored with India, China, Korea and Japan. - Engagement with the REDGTF and International Energy Agency Renewable Energy Technology Deployment Implementing Agreement. Communication and participation with both groups is ongoing. 	

Deliverables Since Last Update:

1. Lenders Workshop - Toronto, Canada, December 2009
2. ZEH Workshop as part of BATF meeting in Vancouver (will be completed March 2010)
3. Submission of draft roadmap to BATF delegates at Vancouver BATF meeting (March 2010)
4. Development of a google map showcasing APP country ZEH case studies (presented to delegates at Vancouver BATF meeting in March 2010)
5. Presentation of the ZEH Dialogue project to the International Energy Agency Renewable Energy Technology Deployment Implementing Agreement ExCo Meeting. (Tokyo November 2009)

Milestones Reached:

Ongoing dialogue and development of material for Year Two Projects/Workshops

Next Steps:

- Presentation as part of 2010 China Beijing International Energy Efficiency & Zero Energy Building Envelope Conference (March 31 – April 1, 2010)
- Additional case studies for google map (ongoing April 2010 – March 2011)
- Exhibit in Shanghai Municipal Expo begins in May 2010
- Finalize Roadmap (May 2010)
- Demonstration project design charrettes and national ZEH workshops in India, Korea, Japan and China (April 2010 – March 2011)

Proposed Project End Date: March 2011

Project Already Complete: Yes No

Other Information: Move to IPEEC, SBN

The collaborative nature of this project has resulted in Canada seeking endorsement for 6 ZEH related demonstration project (March 2010) and engagement with the US in the delivery of the Beijing International Energy Efficiency & Zero Energy Building Envelope Conference. It is recommended that BATF delegates consider making ZEH / ZEB a theme with flagship status.

Deliverables Since Last Update:

- **All members agreed to analyse the following topics of ERV sector profile**
 - ✓ Discuss the methodology to evaluate and estimate the energy efficiency and energy consumption with the market data of each member

- **All members agreed to have a round-robin test for the comparative performance with a developing test procedure as follows ;**
 - ✓ Korea (KTL), US(Intertek), Japan (tentatively) are participated, but the detail schedule will be determined.

- **All members discussed the topics of harmonization of test procedures in the ERV sectors**
 - ✓ Korea delivered the Energy programs on ERV in Korea market
 - ✓ Japan introduced the Act Concerning the Rational Use of Energy(Energy Conservation Law), The Taxation System for Promoting Investments in the Reform of Energy Supply and Demand Structures, and Public building construction.

Date Completed: 1 December 2010

Milestones Reached:

- Developing a process for arriving at methodology for test procedure of *energy recovery ventilator* that measure product energy efficiency and/or energy consumption that are harmonized among the participant countries, recognized as such by manufacturers, and could be adopted by other countries interested in developing labeling, regulatory standards or voluntary levels for these products – termed the Communities of Practice model;
- Sharing the developed new methodology, and to recommend the formal standards by an economy’s standards-setting agency or by an international agency such as the International Standards Organisation (ISO).
- Developing a process for establishing a base on which mutual acceptance of accreditation of energy efficiency testing facilities and the results of test performed at these facilities can be achieved

Next Steps:

- The next project meeting is close to ISO meeting scheduled in Las Vegas, US, 2011.
- Support a new test method of reflecting of actual use with harmonizing APP countries when ISO develop
- Collaboration with APP partners in ISO CD (Committee Stage) stages

Proposed Project End Date: 31 Oct 2012

Project Already Complete: Yes No

Other Information: Move to IPEEC, SEAD

PROJECT STATUS REPORT FORM

Project Number: BATF 09-55	Task Force: Buildings and Appliances		
Title of Project: Role Enhancement of Building Energy Codes Through Development of Building Envelope Component, Energy Performance Labeling and Certification			
Lead Partner Country: India			
Participating Partner Countries and Organizations: India: Bureau Of Energy Efficiency (BEE), Glazing Council of India (GCI), Center for Environmental Planning and Technology (CEPT). United States: National Fenestration Rating Council (NFRC), WinBuild, Inc., Association of Industrial Metallizers, Coaters and Laminators - Window Film Committee (AIMCAL-WFC), (IWFA), US-Department of Energy (DOE), North American Insulation Manufacturers Association (NAIMA), Cool Roof Rating Council (CRRC).			
Project Location (Country, State/Province, City): India			
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> Project Manager Information Name: R. Subramanian & Bipin Shah Organization: Glazing council of India(GCI), National Fenetration Rating Council(NFRC) Address: Glazing Council of India, c/o D-77, Defense Colony, New Delhi - 110024 NFRC, 6305 Ivy Lane, Suite 140, Greenbelt, MD 20770-6323 </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> GCI Phone: +914427160290 Fax: +913327162841 Email: Subramanian.r@saint-gobain.com NFRC Phone: 2408219510 or 703-273-4981 Fax: 301-589-3884 Email: bvshah@verizon.net </td> </tr> </table>		Project Manager Information Name: R. Subramanian & Bipin Shah Organization: Glazing council of India(GCI), National Fenetration Rating Council(NFRC) Address: Glazing Council of India, c/o D-77, Defense Colony, New Delhi - 110024 NFRC, 6305 Ivy Lane, Suite 140, Greenbelt, MD 20770-6323	GCI Phone: +914427160290 Fax: +913327162841 Email: Subramanian.r@saint-gobain.com NFRC Phone: 2408219510 or 703-273-4981 Fax: 301-589-3884 Email: bvshah@verizon.net
Project Manager Information Name: R. Subramanian & Bipin Shah Organization: Glazing council of India(GCI), National Fenetration Rating Council(NFRC) Address: Glazing Council of India, c/o D-77, Defense Colony, New Delhi - 110024 NFRC, 6305 Ivy Lane, Suite 140, Greenbelt, MD 20770-6323	GCI Phone: +914427160290 Fax: +913327162841 Email: Subramanian.r@saint-gobain.com NFRC Phone: 2408219510 or 703-273-4981 Fax: 301-589-3884 Email: bvshah@verizon.net		
Project Start Date: 1 May 2009	Date of Project Status Update: 30 April 2012		

Actions Since Last Update: (Description of Project)

Construction Industry in India is growing at a stunning 30 %. If this growth is to be sustainable, adoption of energy efficiency in buildings is a necessity – particularly in view of the boom seen in high rise commercial complexes, institutional buildings and malls which are also acting as major consumers of energy. Boom in real estate in an energy deficient country like India is increasing the power and energy deficit even further. Adoption of initiatives for energy efficiency in buildings would go a long way towards addressing the national priorities of water conservation and energy efficiency.

To reduce energy use and emissions in the construction sector, it is critical to demonstrate—and build capacity for implementing— energy efficient building technologies and practices throughout India. Key measures include: 1) building energy efficiency measures into the design phase of new construction through demonstration and training; 2) reducing energy use in existing buildings through building retrofits and effective low or no-cost operations and maintenance measures.

The project will develop a building envelope component certification program to be the nationally accepted benchmark for the design, construction and operation of high performance energy efficient buildings. This will establish the minimum level of energy efficiency for the proposed building envelope components namely fenestration, roof and wall-roof systems. The certification program will provide products energy performance level which will be listed on the label. Energy rated and labeled products will provide building inspectors a means to verify compliance of the Energy Conservation Building Code (ECBC).

The Bureau of Energy Efficiency (BEE) has introduced the Energy Conservation Building Code (ECBC) which is currently under implementation for commercial buildings. Inter alia the ECBC specifies the requirements which need to be adhered to by the building envelope components in terms of various performance requirements (SHGC, Light Transmittance, U-factor and Air Leakage, Surface Reflectance, Surface emissivity and R-value).

As part of the implementation program of the ECBC, the BEE is interested in developing an Indian institution which will be capable of providing accurate independent certifications on the

Building component performance parameters. Glazing Council of India (GCI) proposes to establish such a certification and labeling program. As part of the energy certification and labeling program, GCI proposes to sponsor energy performance testing laboratories. The first such laboratory for testing building components is planned to be with CEPT.

The project will have the following goals:

- Develop building envelope component performance certification.
- To make available to public the components which are certified on the basis of the above with details of their performance.
- Setup the first performance testing lab at CEPT, Ahmedabad
- Promote fenestration energy labeling system and its implementation.
- Testing lab, simulation and quality check capacity building to support analysis and verification.
- Standards development to establish product performance for rating and labeling
- Train Indian officials and professionals to administer and implement the rating and certification programs.

Deliverables Since Last Update: (Project Objective)

To develop a component certification program in line with the ECBC and set up the first testing lab at CEPT for building component performance testing and verification. The project will be administered by GCI.

Date Completed:

Milestones Reached:

Indicators:

- 1) Setting up of Lab to be over by September 2010
- 2) A Certification mechanism by Nov 2010
- 3) Membership Drive to create an inclusive body by December 2010
- 4) First set of initiatives for promoting energy efficient products by January 2011.
- 5) Report on Energy and Materials Savings due to Improved Practices as a Percentage of Overall Country's Consumption – Measured in Twh/year
- 6) Number of Technologies and Methodologies Developed or Tested for Broad Dissemination.

Potential technologies:

- Optical measurement of glazing and database
- Thermal (hot box)testing methods (ASTM C1363, C1199, E1423, NFRC 102)
- Insulating Glazing durability testing methods
- Applied film and laminated glass
- ISO test methods
 - ISO9050
 - ISO10292
 - ISO15099
- Software
 - Optics5
 - Window5
 - Therm5
 - EnergyPlus
- Thermo physical Property Material testing (hot plate methods, ASTM 518, NFRC 101)

Next Steps:

Proposed Project End Date:

Project Already Complete: Yes No

Other Information: **Move to IPEEC, SBN**

This project was endorsed newly in the end of 2009.

PROJECT REGISTRATION FORM

Project Number: BATF-09-56	Task Force: Buildings and Appliances
Title of Project: Promotion of Cool Roofs and Development of Cool Roof Energy Performance Labeling and Certification	
Lead Partner Country: USA	
Participating Partner Countries and Organizations: Australia: Department of the Environment Heritage and the Arts, Roofing Tile Association of Australia. India: Ministry of New and Renewable Energy, Bureau Of Energy Efficiency (BEE), Glazing Council of India (GCI), Indian Institute of Information and Technology (IIIT) Hyderabad. Japan: Ministry of Economy, Trade and Industry (METI) United States: Cool Roof Rating Council (CRRC), US-Department of Energy (DOE), WinBuild, Inc., and US DOE National Laboratories	

Project Location (Country, State/Province, City): India, China, Australia and Japan

Project Manager Information **Phone:** +1-202-586-9142
Name: Marc LaFrance **Fax:**
Organization: US- **Email:** Marc.LaFrance@ee.doe.gov
Department of Energy
Address: 1J-018, EE-2J
1000 Independence Ave, SW
Washington, DC 20585-0121

Project Start Date: 1st May 2010

Proposed Project End Date: 30 April 2012

Description of Project:

Building certification programs for new and existing buildings can significantly impact the building energy consumption on a long term basis. Proper implementation of the certification program along with requirements in building codes can drive the market to develop and use more energy efficient products, and thus reduce energy consumption and greenhouse gas emissions. Development of Cool Roof rating in APP countries will help achieve the goal of energy savings and green gas reduction.

Cool roofs are a classical energy efficiency measure where a cool roof is installed on a building to reduce solar heat gain. Reducing solar heat gain will reduce interior temperatures, reduce air conditioning loads, and reduce electricity use. The second area involves the collective effect of densely populated highly absorbing surfaces (i.e. dark roofs, roads, and parking lots) that result in increased urban temperatures referred to as Urban Heat Islands. Unconditioned buildings where there will not be any energy savings but there will be improved interior comfort can be included in this category. Finally, reflective roofs and pavements directly reflect part of the incoming solar radiation back to space and hence should contribute to cooling the globe.

The most straight forward definition for a cool roof or surface is one that reflects the sun's energy. This is measured by solar reflectance (SR). The higher the SR, the more of the sun's energy is reflected rather than absorbed. SR takes into account the energy component of visible light and near infrared (solar radiation). White roofs do a good job of reflecting both visible light and near infrared for a high SR. Other colored roofs may have near infrared reflective pigments that improve SR, but they are not as effective as a white roof because they don't reflect the energy in the visible light. Another key characteristic is thermal emittance (TE). While not as significant as SR, high TE allows any absorbed heat on a surface to be radiated away more quickly. This helps it not retain the heat in the surface. Thus, a cool roof should have both high "solar reflectance," (ability to reflect sunlight, measured on a scale of 0 to 1) and high "thermal emittance" (ability to emit thermal radiation, also measured on a scale of 0 to 1). These are called the surfaces "radiative" properties

Large populations and huge building stocks in India and China, along with the boom in real estate are imposing high power and energy requirements. To overcome the demand, we need to design energy efficient buildings and promote the selection and use of energy efficient building materials.

To reduce energy use and emissions in this sector, it is critical to demonstrate—and build capacity for implementing—efficient building technologies and practices. Key measures include: 1) building energy efficiency measures into the design phase of new construction through demonstration and training; and 2) reducing energy use in existing buildings through building retrofits and effective low or no-cost operations and maintenance measures, including using more efficient building materials.

The project will develop a Cool Roof component certification program to be the nationally accepted benchmark for the design of new and retrofit, construction and operation of high performance energy

efficient buildings. The certification program will provide products energy performance levels which will enable building inspectors a means to verify compliance of the Code.

As part of the implementation program of the codes, the agencies responsible for implementation of codes are interested in developing an institutional capacity which will be able to administer and provide accurate independent certifications of the roof component performance parameters. The establishment shall also help establish an energy performance testing laboratories to provide certification services.

The project will have the following goals:

- Establish harmonized standards to establish product performance for rating and labeling of Cool Roof Products.
- Develop accelerated age testing procedure and standard for cool roof products.
- Develop a web based cool roof simulation tool to provide consumers a quick way to determine the energy savings and cost benefits.
- Develop cool roof component rating program. Cool roof helps reduce the energy loads in a building which needs to be handled by air conditioning.
- Develop cool roof certified component listing database and be made available to public
- Promote use of cool roof certified component, labeling system and its implementation by pilot demonstration and monitoring, organizing conference and workshops involving key stake holders.
- Help build infrastructure for cool roof testing, simulation and quality check capacity to support ratings and verification.

Train code officials and professionals to administer and implement the rating and certification programs.

Project Objectives: Promotion of Cool Roofs and Development of Cool Roof Energy Performance Labeling and Certification leading to code adoption and program elements for building retrofits.

Project Deliverables:

Cool Roof component energy labeling system:

- Through workshops, seminar and trade show participation introduce information and experiences on the implementation of cool roof rating systems such as in the USA.
- Conduct pilot projects to demonstrate cool roof energy efficiency benefits.
- Organize workshop to establish harmonized standards and practices to establish product performance for rating and labeling of Cool Roof Products.
- Organize workshop to develop accelerated age testing procedure and standard for cool roof products.
- Develop promotion of cool roofs, fact sheets, case study, etc. for consumer awareness.
- Web based cool roof simulation tool (cool roof calculator) to provide consumers a quick way to determine the energy savings and cost benefits.
- Establish cool roof component rating program in at least one of the APP interested countries.
- Establish cool roof certified component listing database and be made available to public
- Host workshops and conference in India, China and Australia, involving key stake holders, to promote use of cool roof certified component, labeling system and its implementation.
- Establish infrastructure in at least one of the APP interested countries for cool roof testing, simulation and quality check capacity to support ratings and verification.
- Transfer engineering expertise to assist with the construction and operation of the simulating and testing laboratories. These facilities are a fundamental quality assurance requirement in the fenestration rating procedure ensuring accurate fenestration energy simulations are provided to consumers and building officials.
- Host workshop to train code officials and professionals to administer and implement the rating and certification programs.

Project Milestones:

Indicators:

- 7) Conference in at least one APP country Fall 2010
- 8) Workshop of Key Standards developing agencies and experts Fall 2010
- 9) Setting up of a testing laboratory and required infrastructure in at least one APP country. Spring 2012
- 10) Initiate Pilot Project in one APP country Fall/Winter 2010
- 11) Cool Roof Rating program establishment by Spring 2012
- 12) Membership Drive to create an inclusive body in the APP country by December 2010
- 13) Number of Technologies and Methodologies Developed or Tested for Broad Dissemination.
Potential technologies:
 - Surface Reflectance measurement
 - Surface Emittance measurement
 - Accelerated Age testing
 - Thermo physical Property Material testing

Resources:

Total Project cost:

USA - \$ 1,000,000

India - \$200,000

Australia - TBD

Japan – TBD

Proposed Project End Date:

Project Already Complete: Yes No

Other Information: Move to IPEEC, SBN

This project was endorsed newly in the end of 2009.

APPENDIX B

Existing Policies and Programs

The information summarized in this Appendix is designed to provide BATF members and other interested readers with a common frame of reference for comparing existing policies and programs across the APP countries, and for considering additional initiatives or new approaches to strengthen or broaden existing programs.

Energy efficiency programs and policies are grouped into the following categories:

- 1) Information, Labeling, & Certification
- 2) Training & Technical Assistance
- 3) Utility & Government Rebates and Tax Incentives
- 4) Financing
- 5) Utility Regulatory Incentives & Industry Voluntary Targets
- 6) Public Sector Leadership
- 7) Mandatory Measures
- 8) Energy Pricing & Rate Structure
- 9) Technology Development & Demonstration
- 10) Other

For each category, we include programs that apply to new and existing residential buildings, new and existing non-residential buildings, and appliances & equipment.

Information, Labeling, & Certification

This category includes appliance labeling; building benchmarking, certification, and disclosure (to prospective buyers or tenants), along with public awareness campaigns.

Australia

- The Department of Environment and Heritage (DEH) works in partnership with stakeholder groups to introduce programmes that encourage market transformation by promoting highly efficient equipment or by identifying selected energy efficient products through appliance labeling. The Australian Greenhouse Office (AGO) is currently working with its stakeholders to reduce standby power losses. For more information, visit: <http://www.energyrating.gov.au/standby.html>
- More information on appliance energy labeling is at:
 - Energy All-stars www.energyallstars.gov.au
 - Energy Rating - www.energyrating.gov.au
 - Energy Star - www.energystar.gov.au
- The Australian Window Association and Australian Glass Association are currently working with the National Fenestration Rating Council (NFRC) in the US to establish a unified energy performance rating and labeling system for windows and glazing systems.
- The National Australian Built Environment Rating System (NABERS) is a performance-based rating system that measures the sustainability of existing buildings and promotes

environmental improvement in the operation of Australian buildings using a set of key impact categories. For more information, visit: www.nabers.com.au

- Sustainable House Day (formally Solar House Day) allows people who are considering building or renovating a house to gain a first-hand insight into the style, comfort and economic benefits of real passive and active solar homes by touring homes of builders and designers around the country. For more information, visit: <http://www.greenhouse.gov.au/buildings/solarhouseday.html>

China

- In 1998, the China Standard Certification Center (CSC, formerly Certification Center for Energy Conservation Products, or CECP) was established as a non-government organization under the National Development and Reform Commission (NDRC) with a mission of developing appliance energy rating and labels. CSC develops the energy testing and certification procedures for energy-saving, water-saving, and environmental-friendly products. CSC also conducts fundamental research on energy efficiency for policy making and identifies ways to remove market barriers in order to promote energy efficient, water-saving and environmental-friendly products. For more information, visit: <http://www.cecp.org.cn/englishhtml/cecp.asp>
- Efficient Lighting Initiative (ELI) Project: CSC is also involved as administrator of ELI, an international collaboration to support the use of high-quality energy-efficient lighting products globally through creating a self-sustaining global certification service for efficient, reliable lighting products. For more information, visit: <http://www.cecp.org.cn/englishhtml/introduction.asp>
- The China Green Lighting Promotion Project is a cooperative effort by the State Economic and Trade Commission (SETC), United Nations Development Program (UNDP), and the Global environment Facility (GEF). For more information, visit: <http://www.cecp.org.cn/englishhtml/introduction.asp>
- The China Motor Systems Energy Conservation Program includes minimum energy efficiency standards for motors and a voluntary “green motor” labeling program for high-efficiency motors. For more information, visit: http://eetd.lbl.gov/ea/indpart/publications/lbnl_51052.pdf
- Leadership in Energy and Environmental Design (LEED) in China: Five Chinese buildings are certified by the LEED rating system and one building under development is registered for LEED (see the entry below, under U.S.). For more information, visit: <http://www.usgbc.org/LEED/Project/CertifiedProjectList.aspx?CMSPageID=247&CategoryID=19&> and <http://www.usgbc.org/LEED/Project/RegisteredProjectList.aspx>
- The US-based Alliance to Save Energy and the Energy Foundation, in cooperation with the China Ministry of Construction, are working to promote testing/simulation and labeling for energy performance of window products, along with glass and window manufacturers in China. For more information, visit: <http://www.ase.org/section/country/china/>

India

- National Energy Labeling Programme: A categorical label (1 to 5 stars) has been applied to frost-free refrigerators and fluorescent tube lights (first voluntary and then mandatory over time). For more information, visit: <http://www.clasponline.org/listnews.php?no=413>

- The Government of India launched the “Ecomark” eco-labeling scheme in February 1991 for easy identification of environment-friendly products. For more information, visit: http://www.cpcb.nic.in/eco_criteria_elect.htm
- The Bureau of Indian Standards (BIS) covers product quality certification, consumer affairs, and development of technical standards. For more information, visit: <http://www.bis.org.in/>
- Confederation of Indian Industries/Green Buildings Centre promotes the building of world class “Green Buildings.” Several corporate buildings have been built to the U.S. Green Building Council’s platinum and gold level LEED rating. For more information, visit: <http://greenbusinesscentre.com/>
- National Campaign on Energy Conservation 2006: One focus is the Domestic Sector. For more information, visit: <http://www.bee-india.nic.in/NCEC2006/NCEC06.htm>

Japan

- Labeling of Appliance under Japan Industrial Standard – Japan has mandatory energy labeling for air conditioners and voluntary labeling for several other product categories. For details see www.clasponline.org.
- CASBEE is the Comprehensive Assessment System for Building Environmental Efficiency, a labeling system for building energy performance. For more information, visit: <http://www.ibec.or.jp/CASBEE/english/index.htm>
- Housing Performance Indication Scheme offers a government sponsored format for sellers to voluntarily disclose to buyers, at the time of sale, certain features of the house including energy efficiency. A summary of this program is on p. 49 at [http://www.oilis.oecd.org/olis/2001doc.nsf/43bb6130e5e86e5fc12569fa005d004c/af860e391b8304eec1256bd7004fc927/\\$FILE/JT00128202.DOC](http://www.oilis.oecd.org/olis/2001doc.nsf/43bb6130e5e86e5fc12569fa005d004c/af860e391b8304eec1256bd7004fc927/$FILE/JT00128202.DOC)
- The Top Runner Program identifies today’s most efficient technologies in a given appliance and equipment category and sets a target date, in consultation with industry, for achieving this level of performance as the average of all new appliances sold. For more information, visit: <http://www.enecho.meti.go.jp/english/toprunner/program.pdf>.

Republic of Korea

- Appliance efficiency standards and labels in Korea are summarized at the APEC-ESIS website. For more information, visit: <http://www.apec-esis.org/countrysummary.php?country=USA> and also www.clasponline.org
- The Ministry of Knowledge, and Economy (MKE), in cooperation with the Korea Energy Management Corporation (KEMCO) sponsors the “High-efficiency Equipments Certification Program,” a voluntary program that designates models that significantly exceed minimum efficiency standards, for 33 categories of products. For more information, visit: http://www.kemco.or.kr/english/sub03_energyefficiency00.asp
- The “e-Standby” program, jointly sponsored by MOCIE and KEMCO, provides a label endorsing low standby power products for 17 types of home and office electronics. More information is at http://www.kemco.or.kr/english/sub03_energyefficiency00.asp.
- The “Energy-saving Office Equipment & Home Electronics Program” has been implemented since April 1, 1999 for the purpose of enhancing the introduction of energy saving products with low standby power, in cooperation with the US ENERGY STAR program, based on the Article 13 of Rational Energy Utilization Act of Korea.

- Korea is developing a commercial building energy rating and benchmarking program, expected to be launched in 2007.
- An energy efficiency labeling program for residential buildings is being implemented; the purpose is to encourage the supply of low-energy residential buildings. Also, residential multi-family buildings with over 18 units are expected to adopt energy-saving equipment and appliances.
- The Public Campaign on Energy Efficiency and Conservation includes Energy Conservation Month and Energy Conservation Day.
- The Energy Conservation Exhibition (ENCONEX) promotes the latest energy conservation technologies and equipment.
- The Energy Conservation Convention is an event held annually in order to heighten public energy conservation awareness and to honor those who have made a significant contribution to the cause.

United States

- US appliance efficiency standards and labels are summarized, along with those of many other countries, at the APEC-ESIS website. For more information, visit: <http://www.apec-esis.org/countrysummary.php?country=USA> and also www.clasponline.org
- The Energy Star for Homes program provides voluntary home energy efficiency ratings for participating builders. For more information, visit: http://www.energystar.gov/index.cfm?c=new_homes.hm_index
- Energy Star Buildings is a voluntary partnership and recognition program for non-residential buildings, sponsored by USEPA. For more information, visit: http://www.energystar.gov/index.cfm?c=business.bus_index
- The LEED (Leadership for Energy and Environmental Design) rating scheme for new and existing buildings is sponsored by the US Green Building Council. For more information, visit: <http://www.usgbc.org/LEED>
- A version of LEED rating system is also being developed for homes. For more information, visit: <http://www.usgbc.org/LEED>
- The North Carolina SystemVision program also provides guidelines and rating criteria for new home energy efficiency. For more information, visit: http://www.advancedenergy.org/buildings/programs/affordable_housing/index.html
- The Energy Policy Act of 2005 authorized a comprehensive national program to inform consumers the need to save energy, benefits to consumers and the national economy, and practical cost-effective measures (this program has not yet been funded). For more information, visit: http://energycommerce.house.gov/108/energy_pdfs_2.htm
- The Clean Energy-Environment State Partnership Program is a voluntary state-federal partnership that supports state efforts to increase the use of clean energy. For more information, visit: http://www.epa.gov/cleanenergy/pdf/gta/guide_action_full.pdf
- US DOE maintains a database on high-performance energy-efficient buildings. For more information, visit: <http://www.eere.energy.gov/buildings/highperformance/>
- US DOE also sponsors the Zero Energy Homes program, with detailed energy performance data and case studies. For more information, visit: <http://fsec.ucf.edu/Bldg/baihp/index.htm>.

Training & Technical Assistance

Programs in this category include building energy audits, design assistance, and professional training and certification on energy efficiency.

Australia

- In 1998, the Department signed a three-year partnership agreement with the Housing Industry of Australia, called PATHE; the aim being to develop, demonstrate and promote technologies, design principles and practices to improve environmental resource management in the housing industry. For more information, visit: <http://www.greensmart.com.au/>
- The Working Energy Resource Kit is designed to help Local Government develop best practice by providing simple and effective methods for improving greenhouse performance. For more information, visit: <http://www.greenhouse.gov.au/lgmodules/wep/index.html>
- ABSA (The Association of Building Sustainability Assessors) is running a series of training courses in building sustainability. The courses are suited to building and design practitioners looking for a comprehensive understanding of sustainability regulation and practical, cost effective ways to meet the requirements. For more information, visit: www.absa.net.au/training/courses.aspx
- Your Home: Your Home is a suite of consumer and technical guide materials and tools developed to encourage the design, construction or renovation of homes to be comfortable, healthy and more environmentally sustainable. For more information, visit: <http://www.greenhouse.gov.au/yourhome/index.htm>
- The Voluntary Building Industry Initiatives Programme of the Australian Greenhouse Office (AGO) is designed to assist the building industry to encourage best greenhouse practice from building and construction practitioners. For more information, visit: <http://www.greenhouse.gov.au/buildings/practices.html>

China

- Energy Conservation Information Dissemination Centre (ECIDC): Developed nine best practice cases on how best to install & operate energy systems. For more information, visit: <http://www.ieej.or.jp/aperc/pdf/project2002/efficiency.pdf>
- eeBuildings provides a voluntary, no-cost approach to improved energy efficiency. For more information, visit: <http://www.epa.gov/eeBuildings/china/index.html>

India

- Energy Audits for Buildings: For more information, visit: <http://www.bee-india.nic.in/Energy%20Auditor/Guidelines/Energy%20audit%20for%20buildings.pdf>
- Federation of India Chambers of Commerce and Industry is conducting energy efficiency training and audits. For more information, visit: <http://www.ficci.com/services/energy.htm>

- Petroleum Conservation Research Association (PCRA) provides energy audits. For more information, visit: <http://www.pcra.org/English/aboutus/default.htm>
- Energy Conservation Act of 2001 called for training and certification of professionally qualified energy managers and auditors with expertise in energy management, project management, financing and implementation of energy efficiency projects, as well as policy analysis. For more information, visit: http://www.energymanagertraining.com/new_index.php
- Federation of India Chambers of Commerce and Industry is conducting energy efficiency training. For more information, visit: <http://www.ficci.com/services/energy.htm>
- The U.S. Asia Environmental Partnership (USAEP) in partnership with local governments, builders, architects, and academic institutions regarding the promotion of green building for the housing sector. For more information, visit: <http://www.usaep.org/activities/initiatives/india.htm#5a>
- eeBuildings/India: A pilot program cosponsored by USEPA, USAID/India, and the Indian Bureau of Energy Efficiency (BEE) and the Maharashtra Energy Development Agency (MEDA) provides a voluntary, no-cost approach to improved energy efficiency: For more information, visit: <http://www.epa.gov/eeBuildings/india/index.html>
- TERI Green Rating for Integrated Habitat Assessment (TERI-GRIHA): A voluntary program whose primary objective of the rating system is to help design green buildings and, in turn, help evaluate the 'greenness' of the buildings. For more information, visit: <http://www.teri.res.in/core/griha/>

Japan

- The CASBEE energy rating program for existing buildings (see above) includes training and accreditation activities for energy assessors.

Republic of Korea

- Energy audits have been conducted mainly by KEMCO. In the industrial sector, there are two kinds of energy audits: an in-depth audit and free audit. In the commercial building sector, energy audits are conducted for large residential and commercial buildings at the request of the owners of those buildings. Depending on the results of the audits, technical assistance and energy efficiency improvements, such as thermal insulation and double-glazed windows, will be provided. For more information, visit: http://www.kemco.or.kr/english/sub03_energyaudit.asp
- Practical Business Training and Capacity Building Courses (including the personal capacity and certifying the operators of small-sized boilers and pressure vessels, as well as the operators of gas boilers and certified energy managers). Classes are held for seven hours per day on topics such as energy conservation policies, laws and regulations which are also related to rational energy utilization, efficiency and safety of energy-consuming equipment, new conservation technologies, and measures to prepare for the Convention on Climate Change.
- Education for Provincial Energy Planning Officials.
- Early Stage Education: Providing financial assistance, educational aids such as books and other related materials for elementary and junior-high schools.

United States

- US DOE supports software tools (REScheck and COMcheck) for checking compliance with energy performance requirements recommended for new buildings and evaluating performance trade-offs among efficiency measures.
- The National Conference of States on Building Codes and Standards (NCSBCS) sponsors training and information exchange on building code adoption and enforcement, not limited to the energy efficiency aspect of building codes - see <http://www.ncsbc.org/>
- Many utility companies offer energy audits to their residential and non-residential customers.
- The Federal Energy Management Program (FEMP) provides energy audits to federal agencies. For more information, visit: <http://www1.eere.energy.gov/femp/services/assessments.html>
- The US DOE Home Weatherization Program offers an energy audit software tool for low-income households. For more information, visit: http://www.eere.energy.gov/weatherization/wxtech_neat.html
- Another federal government sponsored free software tool for self-audits by homeowners is the Home Energy Saver. For more information, visit: <http://hes.lbl.gov/>
- A number of professional and technical societies, as well as utility programs, provide energy efficiency training and education programs. For more information, visit: <http://www.aeecenter.org/certification/CEMpage.htm>, <http://www.aesp.org/i4a/pages/index.cfm?pageid=1>, http://www1.eere.energy.gov/education/adult_education.html
- The annual Solar Decathlon, a US DOE program that sponsors university student teams to design and build low-energy homes. For more information, visit: http://www.eere.energy.gov/solar_decathlon/

Utility & Government Rebates and Tax Incentives

Included in this category are utility Demand-side Management (DSM) rebates and sales and income tax incentives.

Australia

- The Greenhouse Gas Abatement Programme (GGAP) uses Australian Government funding grants to leverage private sector investment on projects to reduce greenhouse gas emissions, such as co-generation, energy efficiency, travel demand management, alternative fuels, coalmine gas technologies and fuel conversion. <http://www.greenhouse.gov.au/ggap/index.html>
- Several State based programs provide financial assistance, examples include the following:
 - NSW Energy Savings Fund - The Energy Savings Fund allocates \$40 million a year for five years to encourage savings in energy and peak electricity demand in New South Wales. <http://www.deus.nsw.gov.au/waterandenergysavings/>
 - Victorian Energy Rebates provide funding for the installation of certain energy efficient systems including Solar hot water, high efficiency gas heaters and hot

water systems. <http://www.sustainability.vic.gov.au/www/html/1517-home-page.asp>

- The Victorian Sustainability Fund and provides grant based financial support for a broad range of environmental initiatives
<http://www.sustainability.vic.gov.au/www/html/1517-home-page.asp>

China

- Chinese jurisdictions offer property tax and city fee exemptions for energy-efficient buildings, as defined by the Energy Efficient Design Standards for Hot Summer-Cold Winter Region. See the description on p. 37 of the APEC report at:
<http://www.ieej.or.jp/aperc/pdf/project2002/efficiency.pdf>

India

- The Electricity Act of 2003: Sets up central and state-level independent regulatory commissions, can mandate and finance DSM programs. For more information, visit: http://www.bee-india.nic.in/sidelinks/Electricity_Act_2003.html
- The Bangalore Electricity Supply Company (BESCOM) in Karnataka initiated a program, Bescom Efficient Lighting Program (BELP) to promote the use of CFLs. For more information, visit: <http://www.bescom.org/en/news/belp.asp>
- Maharashtra Electricity Regulatory Commission (MERC) instituted a public-benefits type of electricity charge on industry, funds from which can be used to finance renewable energy and energy efficiency programs in the state. For more information, visit: http://mercindia.org.in/Orders_2005.htm

Japan

- Environmentally Symbiotic Housing Model Projects. *[more detail needed]*
- Local Housing Grants. *[more detail needed]*
- Premium Loan Program by the Government. *[more detail needed]*
- Housing Loan Corporation. *[more detail needed]*
- Subsidies for energy efficient system of residential and commercial buildings. *[more detail needed]*
- Corporate tax mitigation. *[more detail needed]*

Republic of Korea

- Rebates for High Energy Efficiency Appliances (Motor, Lamp Ballast, Vending machine, Inverter, Pump, and Transformer). For more information, visit: <http://www.kemco.or.kr/rebate>
- The government provides tax incentives for energy efficiency investments (10% since 2005) for replacement of old industrial kilns, and installation of energy-saving facilities, alternative fuel-using facilities. For more information, visit: http://www.kemco.or.kr/english/sub03_financial.asp , and http://www.kemco.or.kr/english/sub03_financial02.asp

United States

- Energy Efficiency Action Plan is a voluntary program initiated by USEPA and USDOE, involving utility, industry, and state government leaders and covering all sectors not just buildings. For more information, visit: <http://www.epa.gov/cleanrgy/eeactionplan.htm>
- A number of states provide utility or state incentives, including rebates or tax benefits, for energy efficiency measures in new or existing buildings, and for purchase of energy-efficient appliances and equipment. For more information, visit: <http://www.dsireusa.org/>
- The Consortium for Energy Efficiency (CEE) coordinates utility rebate programs. For more information, visit: <http://www.cee1.org/>
- Several states are considering sales tax incentives for purchasers of Energy Star appliances. For more information, visit: <http://www.ase.org/content/article/detail/2643>

Financing

The range of financing programs includes conventional loans, government-subsidized “soft” loans and loan guarantees, revolving funds for investment in energy efficiency, leasing of energy-efficient buildings and equipment, financing of efficiency measures with repayment through utility bills, and ESCO performance contracts.

Australia

- Australasian Energy Performance Contracting Association (AEPKA): aims to support the commercial growth of members and their market through education, industry promotion, self-regulation and industry standards. In partnership with governments, it has developed industry best practice guidelines to Energy Performance Contracting (EPCs) and measurement and verification. <http://www.aepka.asn.au/>

China

- Country Energy Efficiency Projects: Initiated in 2001, by the WB, UNEP, to substantially increase investments in energy efficiency by the domestic financial sectors in Brazil, China and India. For more information, visit: <http://3countryee.org/>

India

- Private ESCOs have mobilized and recently set up the Indian Council for Energy Efficiency Business (ICPEEB) to network, provide input to policy makers, support business development, and disseminate information on energy efficiency. For more information, visit: <http://www.shrishakti.com/alternativeenergy/index.html>
- ESCOs have worked with the Ahmadabad Electricity Company to implement efficient lighting & other measures. For more information, visit: http://www.usaid.gov/in/Pdfs/Draft_DSM%20Guidebook.pdf

- Country Energy Efficiency Projects: Initiated in 2001, by the WB, UNEP, to substantially increase investments in energy efficiency by the domestic financial sectors in Brazil, China and India. For more information, visit: <http://3countryee.org/>
- Programme on Solar Water Heating: Regular interest rates are being subsidized by Ministry of Non-Conventional Energy Sources (MNES), leading to installations of solar water heater in households, hotels, hospitals, small scale businesses, medium enterprises, sugar mills, milk processing plants, and food processing units. For more information, visit: <http://www.renewableenergyaccess.com/rea/news/story?id=43139>

Japan

- Environmentally Symbiotic Housing Model Project: Ministry of Land, Infrastructure and Transport provides model projects with subsidy for expenses for permeable pavement, greening facilities, etc.
- Premium Loan Program by the Government Housing Loan Corporation: Additional loan program and favorable interest rate for energy-saving performance has been provided by the Government Housing Loan Corporation. In addition, a new program has been introduced since 2005 that uses a mortgage-backed security approach to give favorable interest rate for energy-efficient housing.
- Low-interest Loans for Commercial Buildings: To promote environmentally friendly building construction, the Development Bank of Japan offers low-interest loans to projects.
- Subsidies for energy efficient system of residential and commercial buildings: New Energy and Industrial Technology Development Organization (NEDO) promotes introduction of highly energy-efficient systems in housing or other buildings with subsidies.
- Local Housing Grants: Ministry of Land, Infrastructure and Transport provides local governments with Local Housing Grants when they promote projects based on Local Housing Plan.
- Tax mitigation: Small and medium sized enterprises can enjoy corporate/income tax mitigation when they acquire facilities for efficient use of energy.

Republic of Korea

Information not available.

United States

- ESCO Financing: Used by the private sector (large commercial buildings) and schools, hospitals, and government offices. For more information regarding Federal government programs to use ESCO financing for Energy-Savings Performance Contracts, visit: <http://www1.eere.energy.gov/femp/financing/mechanisms.html>. Also, for an overview of trends in the US ESCO industry, visit: <http://eetd.lbl.gov/EA/EMP/ee-pubs.html>.
- The Asia-Pacific Economic Cooperation (APEC) has conducted a number of studies of energy efficiency and renewable energy projects, and sponsored pilots and demonstrations in APEC member economies. For more information, visit: http://www.apecsec.org.sg/apec/apec_groups/working_groups/energy.MedialibDownload

[.v1.html?url=/etc/medialib/apec_media_library/downloads/workinggroups/ewg/pubs/1998.Par.0002.File.v1.1.](#)

- Energy Efficient Mortgage (EEM): In 1995 Congress mandated a national EEM program. FHA EEMs provide mortgage insurance for a person to purchase or refinance a principal residence and incorporate the cost of energy-efficient improvements into the mortgage. For more information, visit: http://www.hud.gov/offices/hsg/sfh/eem/eem_prog.cfm

Utility Regulatory Incentives & Industry Voluntary Targets

(Utility obligations with tradable “white” certificates, industry targets & voluntary agreements)

Australia

- Mandatory Renewable Energy Target which requires an additional 9,500 gWh hours of electricity to be sourced from renewable sources by the year 2010. For more information, visit: <http://www.greenhouse.gov.au/markets/mret/index.html>
- Greenhouse Challenge Plus: Industry-Government partnerships to improve energy efficiency and reduce greenhouse gas emissions. It includes supply and end use efficiency aspects. <http://www.greenhouse.gov.au/challenge/index.html>
- The NSW State government Greenhouse Gas Abatement Scheme (GGAS): through the *Electricity Supply Amendment (Greenhouse Gas Emission Reduction) Act 2002* requires electricity sector participants to surrender abatement certificates equaling set benchmarks. These certificates can be created through various means including low-emission generation of electricity and reduced consumption of electricity. <http://www.greenhousegas.nsw.gov.au/>
- The Victorian State Government is undertaking a mandated rollout of interval ‘smart’ meters <http://www.esc.vic.gov.au/public/Energy/>
- Several State based electricity network initiatives to consider demand side management exist, for example <http://www.iplan.nsw.gov.au/demandmgt/index.jsp> and http://www.sustainable.energy.sa.gov.au/pages/programs/dsm/demand_side.htm

China

Information not available.

India

Information not available.

Japan

- Kyoto Protocol Target Achievement Plan

Republic of Korea

- The purpose of VA as a joint program between the government and building owners is to reduce energy consumption and satisfy greenhouse gas emission reduction target in which a building owner makes its own target and try to achieve the goal (Recommendation: 5% saving through 5 years). Government is providing low interest loans, tax incentives, technical support and PR promotion.

United States

- California Green Building Initiative: 20% savings in commercial buildings in 10 years (2015): For more information, visit: <http://www.energy.ca.gov/greenbuilding/index.html>
- State-level “Renewable Portfolio Standards” which requires renewable energy to be a minimum percentage of all electricity sales (or of new capacity), and typically include all sectors not just buildings: For more information, visit: <http://www.dsireusa.org/> (search for “portfolio standards”).
- Energy Efficiency Action Plan is a voluntary program initiated by USEPA and USDOE, involving utility, industry, and state government leaders and covering all sectors not just buildings. For more information, visit: <http://www.epa.gov/cleanrgy/eeactionplan.htm>
- NAPEE: This National Action Plan for Energy Efficiency (Action Plan) presents policy recommendations for creating a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations. Two key components of the National Action Plan for Energy Efficiency are participants identifying key barriers limiting greater U.S. investment in energy efficiency, and developing/documenting sound business practices for removing these barriers, as well as stakeholders committing to take action to advance the recommendations in their spheres of influence. Regulators working with utilities and other stakeholders, as well as boards working with publicly-owned utilities, can establish or reinforce several policies including overcoming the throughput incentive, ensuring program cost recovery, and defining shareholder performance incentives. For more information, visit: <http://www.epa.gov/cleanrgy/actionplan/eeactionplan.htm>

Public Sector Leadership

This category of programs includes energy-efficient government procurement, sustainable construction, and energy management and retrofits of existing public facilities at all levels of government.

Australia

- Environmental Design Guide for Australian Public Buildings: This guide provides an introduction to the key environmental issues relevant to office buildings and public buildings and what can be done to address these issues in building projects. For more information, visit: <http://www.deh.gov.au/settlements/publications/government/esd-design/index.html>
- The Government's policy, Measures for Improving Energy Efficiency in Commonwealth Operations, requires the preparation of an annual whole-of-government report on the total energy use and estimated greenhouse gas emissions of Australian Government departments and agencies. For more information, visit: <http://www.greenhouse.gov.au/government/energyuse/pubs/measures.pdf>
- Energy Efficiency in Government Operations Programme aims to reduce the energy use and greenhouse gas emissions from Australian Government operations by setting energy intensity targets in a number of end-use categories and requiring government office buildings to be designed to meet energy efficiency performance criteria.
- New public buildings within federal, state, and local governments.
- Some requirements through Energy Efficiency in Government Operations Programme for government energy-efficient procurement.

China

- Energy Efficiency in Government Agencies Project in Collaboration with LBNL, Energy Foundation: Develop the research methodologies, surveys, analyze the collected data, develop policy suggestions to the central energy conservation management agencies, and participate in the development of government procurement policy for energy-efficient products. For more information, visit: <http://www.cecp.org.cn/englishhtml/introduction.asp>
- Since 2002, PePS (“Promoting an energy-efficient Public Sector”) is developing a pilot project for government purchasing of energy-efficient products, utilizing China's nascent energy-efficient labeling scheme. For more information, visit: <http://www.pepsonline.org/countries/china.html>
- In 2004, the Ministry of Finance and the NDRC issued a policy document on “Implementation of Government Energy Efficiency Procurement,” calling for a staged, 3-year program to establish energy-efficient purchasing practices at all levels of government in China. For more information, visit: [Treasury 2004 Number 185.pdf](#)
- “Potential for Savings in China’s Government Energy Efficiency Procurement Program: Preliminary Findings” which estimates that cumulative 10-year savings could be as high as 10.9 TWh and over 10 million tonnes of CO₂. For more information, visit: [Potential for Savings in China.pdf](#)
- Energy Conservation Products Certification Commission

India

- The PePS-India project was launched in 2005. It is currently enlisting partners from the public sector in Maharashtra and will provide technical assistance, tools, and approaches that have proven successful in other developing countries. For more information, visit <http://www.pepsonline.org/countries/india.html>

- 2002 announcement from the Prime Minister of India that “*All Government Organizations to reduce their energy consumption by 30% in the next 5 years through contracts for guaranteed levels of energy efficiency improvements involving energy service companies.*” In pursuance of Government policy and announcement the Bureau of Energy Efficiency had initiated a number of activities. For more information, visit: <http://www.bee-india.nic.in/aboutbee/Implementation/Building.html>

Japan

- Kyoto Protocol Target Achievement Plan
- Measures the Government Must Implement in Order to Limit the Emission of Greenhouse Gases in its Work and Projects (e.g., Cool Biz campaign).
- Environmental Load Reduction Program on Government Facilities (Green Program).
- Action Plan to Reduce CO2 Emissions from Government Facilities.
- Standards for the Environmental Preservation Performance of Government Building Facilities.
- Standards for Assessment of the Environmental Preservation Performance of Government Building Facilities and Renovation Plan.
- ESCO Project (ESPC) Implementation Manual.
- Handbook for Contributing to Global Warming Prevention Strategies in the Use of Government Facilities.
- Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Law on Promoting Green Purchasing).

Republic of Korea

- Prime Minister’s Mandate: Public organizations including government buildings should establish energy-use efficiency improvements plan, report the actual result of energy saving to the prime minister every year and get an on-site inspection in summer and winter season.
- New buildings should invest and adopt new and renewable systems by 5% of building construction budget (mandatory).
- Prime Minister’s Mandate: They should follow “Energy saving guide for public organizations.”
- Preferential purchase for Energy-efficient appliances through Public Procurement Service by Prime Ministers’ Instruction 2005-5.

United States

- New federal government buildings are required to be 30% more energy-efficient than the code requirements for all other buildings (Energy Policy Act of 2005 (EPACT), Sec. 104. For more information, visit: http://energycommerce.house.gov/108/energy_pdfs_2.htm
- Energy Policy Act of 2005 requires that federal agencies reduce energy use in buildings by 2%/year for 10 years (EPACT), Sec. 102. For more information, visit: http://energycommerce.house.gov/108/energy_pdfs_2.htm
- The US DOE Federal Energy Management program provides technical assistance and information to other federal agencies in meeting this requirement, including energy audits

and standard contracts for ESCO and utility financing of energy-saving retrofits in federal buildings. For more information, visit: <http://www1.eere.energy.gov/femp/>

- Energy Policy Act of 2005 (Sec. 109) along with federal regulations and executive orders require federal agencies to buy only Energy Star or FEMP-designated products in the top 25th percentile of efficiency, where cost-effective. For more information, visit: <http://www.eere.energy.gov/femp/procurement/> and www.energystar.gov/products
- Executive Order 13221 requires federal agencies to buy products with 1-watt or other low levels of standby as determined by USDOE/FEMP. For more information, visit: <http://www.eere.energy.gov/femp/pdfs/eo13221.pdf>
- Several state and municipal governments have also adopted the federal efficiency requirements for their own purchasing. For more information, visit: <http://www.eere.energy.gov/femp/pdfs/eo13221.pdf>, <http://www.peponline.org/countries/usa.html> , <http://www.cee1.org/gov/purch/purch-main.php3>

Mandatory Measures

Mandatory measures include building energy codes, appliance and equipment efficiency standards, and mandatory equipment inspection and certification programs.

Australia

- The National Appliance and Equipment Energy Efficiency Programme (NAEEEP) mandates comparative energy labeling and minimum energy performance standards (MEPS) for electrical and gas-powered domestic appliances, commercial products and industrial equipment. For more information, visit: <http://www.energyrating.gov.au/naeeec.html>
- The Australian Government's Energy Efficiency Opportunities program encourages large energy-using businesses to improve their energy efficiency by requiring businesses to identify, evaluate and report publicly on cost effective energy savings opportunities. <http://www.energyefficiencyopportunities.gov.au/>
- Building Code of Australia - energy efficiency measures were introduced in January 2003 for all building classifications to mandate performance above minimum standards through a national standardized approach. <http://www.greenhouse.gov.au/buildings/code.html> & <http://www.abcb.gov.au/>
- Several State mandatory measures exist to encourage energy efficiency. A sample of these include:
 - Queensland Sustainable Living Legislation: from 1 March 2006 all new homes built in Queensland are required to install energy efficient hot water systems (solar, gas or electric heat pump) and use energy efficient lighting for at least 40 percent of internal floor space. http://www.energy.qld.gov.au/sustainable_living.cfm
- The Environmental Protection Authority of Victoria's Protocol for Environmental Management (PEM): requires significant energy industries to take up cost-effective opportunities for greenhouse gas mitigation, and integrate consideration of greenhouse and energy issues within existing environmental management procedures and programs. http://www.epa.vic.gov.au/about_us/legislation/air.asp#pem

China

- In 1989, the State Bureau of Technical Supervision issued first set of standards related to EE, included: minimum efficiency standards for refrigerators, room air conditioners, clothes washers, TVs, automatic rice cookers, radios, electric fans, & electric irons.
- The China National Institute for Standardization (CNIS) has technical responsibility for the development of China's minimum energy efficiency standards. Subsequently, CNIS has developed, and the National Development and Reform Commission (NDRC) has issued strengthened regulations for household refrigerators, room air conditioners, clothes washers, televisions, lighting, and other major energy consuming equipment based on of stringent research and analytical techniques. In 2005, NDRC also launched a new mandatory comparative information label for heavy appliances similar to those used in Australia, the EU, etc.
- 1999: Fluorescent lamp ballasts standards set, refrigerator standards updated.
- 2001: Revised room air conditioner standard.
- Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, Article 15-inspections, and Article 27: The competent department concerned under the State Council shall, pursuant to the standards for boiler discharge of atmospheric pollutants prescribed by the state, stipulate corresponding requirements in the boiler quality standards. For more information, visit: <http://www.china.org.cn/english/environment/34422.htm>
- Heat Reform and Building Energy Efficiency: This \$18 million GEF grant was approved in March 2005 and would support improvements in building energy efficiency through demonstrations of better building designs, improved construction, and new materials, and through new building codes and standards and their implementation. For more information, visit: <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEX/T/CHINAEXTN/0,,contentMDK:20585167~pagePK:1497618~piPK:217854~theSitePK:318950,00.html>

India

- Bureau of Energy Efficiency (BEE) has a mandate to set mandatory performance standards and to include building design codes.
- National Energy Labeling Programme: A categorical (1 to 5 stars) label applied to frost-free refrigerators and fluorescent tube lights (first voluntary and then mandatory over time). For more information, visit: <http://www.clasponline.org/listnews.php?no=413>
- Under the Energy Conservation Act of 2001, development of energy performance codes has been initiated for Boilers, Compressors, Fans, Pumps and Cooling Towers. For more information, visit: <http://www.techno-preneur.net/new-timeis/ScienceTechMag/april04/energy.htm>
- Minimum Energy Performance Standards (MEPS) on Freezers, Refrigerators, Room Air Conditioners. For more information, visit: <http://www.clasponline.org/countryinfosummary.php?country=India#National Test Standard>

Japan

- Act Concerning the Rational Use of Energy: Mandatory report on energy conservation.

Republic of Korea

- There are two main codes which are related to building energy conservation for new buildings; one is “*Building Law*” managed by the Ministry of Construction and Transportation and “*Energy Efficiency Law*” managed by the Ministry of Commerce, Industry & Energy.
- Mandatory Standards for building Insulation & Energy-Efficient Designs, Energy Efficiency Labeling Program (commercial under construction), and the Green Building Certification Program.
- MOCIE (Ministry of Commerce, Industry and Energy) issues a regulation requiring that some home appliances be tested and labeled with the “*The regulation on Energy Efficiency Labels and Standards*” label to allow consumers to compare energy use.
- The companies obligated to undergo inspections are manufacturers of boilers and pressure vessels (in regard to construction), and the owners or users of such equipment (in regard to installation, in-service, alteration and relocation inspection). For more information, visit: http://www.kemco.or.kr/english/sub03_energyaudit02.asp

United States

- US DOE provides technical guidance to states on energy standards for new construction, based on ASHRAE Standard 90 (non-residential) and International Energy Conservation Code (IECC - residential) standards. States and municipalities adopt and enforce building energy codes, often following and sometimes exceeding these federal guidelines.
- US DOE Building Codes Program and compliance software tools. For more information, visit: <http://www.energycodes.gov/>
- Presentations at annual national workshops on state building energy codes. For more information, visit: http://www.energycodes.gov/news/2005_workshop/index.stm
- The Building Codes Assistance Project (BCAP) is a non-government organization that advocates for strong building energy codes and enforcement programs. For more information, visit: <http://www.bcap-energy.org/home.php>
- The IECC Residential Energy Efficiency Standard publication. For more information, visit: <http://www.iccsafe.org/>
- ASHRAE Standard 90.1-2004 for energy efficiency in new buildings. For more information, visit: <http://www.realread.com/prst/pageview/browse.cgi?book=1931862664>
- The Federal Trade Commission (FTC) issues regulations requiring that some appliances and equipment be tested and labeled with the “EnergyGuide” label to allow consumers to compare energy use and costs of different models. For more information, visit: http://www.ftc.gov/bcp/online/edcams/eande/contentframe_appliance_guide.html
- US DOE is authorized by law to adopt mandatory minimum appliance standards for specified categories of appliances and building equipment. For more information, visit: http://www.eere.energy.gov/buildings/appliance_standards/
- US DOE contracts with the National Institute of Standards and Technology (NIST) to develop and update energy test procedures. For more information, visit: http://www.bfrl.nist.gov/863/heat_transfer_group/appliance.htm

- Some states, including California also adopt their own appliance energy efficiency standards, but in the case of all products covered by federal standards, a state must first obtain federal approval from USDOE to adopt a different standard. For more information, visit: <http://www.energy.ca.gov/appliances/index.html>
- The Appliance Standards Awareness Project is a non-governmental organization advocating for stronger appliance efficiency standards. For more information, visit: <http://www.standardsasap.org/>
- New York, California, and other states require regular inspections of many larger boilers for safety and pollutant emissions, but not (directly) for energy efficiency.

Energy Pricing & Rate Structure

Market mechanisms to encourage energy efficiency depend on the price signals that consumers see, which include not only price levels (cost-based pricing) but also rate design and rate structures – for example, time-of-use and real-time pricing, and inverted-block rates. Other important pricing issues include net metering for on-site power and special incentive rates or reduced utility connection fees that encourage energy efficiency.

Australia

- The Solar Cities program was announced in the Energy White Paper, Securing Australia's Energy Future, in June 2004. The program is designed to demonstrate how solar power, smart meters, energy efficiency and new approaches to electricity pricing can combine to provide a sustainable energy future in urban locations throughout Australia. It is a partnership approach that involves all levels of Government, the private sector and the local community.
<http://www.greenhouse.gov.au/solarcities/index.html>
- Several smart metering and time of use pricing trails are being conducted in Australia through governments or industry lead initiatives.

China

Information not available.

India

- Bangalore Electricity Supply Corporation: BESCO Efficient Lighting Program. For more information, visit: http://www.usaid.gov/in/Pdfs/Draft_DSM%20Guidebook.pdf

Japan

Information not available.

Republic of Korea

Information not available.

United States

- Many utilities offer electricity and natural gas tariffs designed to encourage energy efficiency and reduce waste by business customers and individual consumers.
- CA, OR, UT, and WA states have adopted inverted block electricity rates for residential customers. For more information, visit:
http://www.epa.gov/cleanenergy/pdf/eeap_rates.pdf
- Some utilities offer special tariffs or contract with their customers to reduce loads during high demand periods. For a summary of activities on demand-response.
- A 2004 study by the federal Government Accountability Office (GAO) identified significant benefits from demand-response. For more information, visit:
<http://www.gao.gov/new.items/d04844.pdf>
- Section 1252 of the Energy Policy Act of 2005 calls on state utility regulators to direct utilities to install “smart meters,” establish time-of-use electricity tariffs, and consider implementing demand-response programs. For more information, visit:
http://energycommerce.house.gov/108/energy_pdfs_2.htm
- California funded a research program on demand-response. For more information, visit:
<http://drrec.lbl.gov/>
- According to the DSIRE data base, Arizona, Colorado, New Mexico, and Texas all offer utility rate incentive for new connections in the case of efficient homes. For more information, visit: <http://www.dsireusa.org/> , <http://www.progress-energy.com/custservice/carres/energyhome/index.asp>

Technology Development & Demonstration

A wide range of demonstration and technology development programs can encourage the introduction of energy efficient technologies in buildings and appliances.

Australia

- Energy Research for the Building Code of Australia 2000. For more information, visit:
http://www.greenhouse.gov.au/buildings/publications/pubs/energy_research.pdf
- Scoping Study of Minimum Energy Performance Requirements for incorporation into the Building Code of Australia 1999. For more information, visit:
http://www.greenhouse.gov.au/buildings/publications/pubs/s_study.pdf

China

- Energy Efficient Building Demonstration Project (MOST primary counterpart) - finished: January 2004. In 1999, DOE and MOST signed a Statement of Work to build an Energy Efficient Demonstration Building: when the Chinese partner built a normal building, the U.S. private firms would provide engineering, materials and technology to bring it to higher specs, to achieve energy savings of 35%. For more information, visit: http://www.uscc.gov/hearings/2003hearings/written_testimonies/031030bios/031030cobb.doe_bilatattachme.htm , <http://www.doe.gov/news/1781.htm>

India

- Confederation of Indian Industries/Green Buildings Centre promotes the building of world class “Green Buildings,” several of which have been built to US Business Council’s platinum and gold LEED ratings. For more information, visit: <http://greenbusinesscentre.com/>
- Energy conservation building/housing awards.
- Exhibition of new building environmental technology.
- Field tests of Fuel cell for housing.
- R&D on sustainable buildings, Fuel cell, CASBEE, etc.

Japan

- Energy conservation building/housing awards.
- Exhibition of new building environmental technology.
- Field tests of fuel cells for housing.
- R&D on sustainable buildings, fuel cell, Comprehensive Assessment System for Building Environmental Efficiency (CASBEE), etc.

Republic of Korea

- Research projects for building energy conservation and expanding new & renewable systems to buildings have been conducted by the assistance of MOCIE and MOCT. R&D programs include from key technology of building energy systems to large-scale test bed by short & long term based.

United States

- Annual awards are given for federal showcase buildings. For more information, visit: http://www1.eere.energy.gov/femp/services/awards_fedshowcase.html.
- The US Navy’s “TechVal” program evaluates and sometimes tests potential energy saving technologies for the military services. For more information, visit: <http://techval-energy.nfesc.navy.mil/>
- Utilities in California collaborate in assessing new and emerging technologies. For more information, visit: <http://www.ca-etcc.com/>

- The US DOE/FEMP New Technologies Demonstration Program. For more information, visit: http://www.eere.energy.gov/femp/technologies/tech_demos.cfm
- US DOE Building Technologies program is the principal sponsor of buildings energy efficiency and renewable energy research in the US. For more information, visit: <http://www.eere.energy.gov/buildings/tech/index.html>
- State government agencies and public universities, including those in New York, California, Iowa, North Carolina, and Florida, also sponsor applied R&D on energy efficiency in buildings, and undertake cooperative projects with each other and with USDOE. For more information, visit: <http://www.aserti.org/>
- NY State Energy Research and Development Authority. For more information, visit: <http://www.nyserda.org/programs/buildng.asp>
- Building projects certified under the US Green Building Council LEED rating system. For more information, visit: <http://www.usgbc.org/LEED/Project/CertifiedProjectList.aspx?CMSPageID=247&CategoryID=19&>

Other

This category of programs includes other activities that do not fit well into the above categories, or cut across several of them.

Australia

- Australia's Energy White Paper, Securing Australia's Energy Future, comprehensively reviews energy policies and approaches, and provides a framework for a sustainable energy future. For more information, visit: http://www.dpmc.gov.au/publications/energy_future/index.htm
- In August 2004, the Ministerial Council on Energy agreed to Stage 1 of a National Framework on Energy Efficiency (NFEE) in recognition of the potential environmental and economic benefits. For more information, visit: <http://www.nfee.gov.au/home.jsp?xcid=48>
- Securing Australia's Energy Future: http://www.dpmc.gov.au/publications/energy_future/index.htm#about

China

- Energy Conservation Law of 1998: highlights end use energy reduction and standards and labels programs. For more information, visit: <http://www.unescap.org/esd/energy/publications/compend/ceccpart4chapter4.htm>
- China Sustainable Energy Program (CSEP) supports China's policy efforts to increase energy efficiency and renewable energy through both national policy and regional implementation. For more information, visit: <http://www.efchina.org/home.cfm>
- China Standard Certification Centre (CSC, formerly CECP) activities include establishing and developing the certification system for energy conservation, water-saving and environmental-friendly products, conducting fundamental research regarding energy for

policy making, and promoting energy efficient, water-saving and environmental-friendly products and removing the market barriers for energy conservation products. For more information, visit: <http://www.cecp.org.cn/englishhtml/cecp.asp>

- Alliance to Save Energy's China Energy Efficiency Industry Partnership (EEIP) works closely with suppliers of energy-saving equipment and services to educate energy end-users on energy and money-saving improvements they can make in their facilities. For more information, visit: <http://www.ase.org/content/article/detail/610>

India

- Government of India has set a goal - Mission 2012: Power for All, which includes: A Conservation Strategy to optimize the utilization of electricity with focus on Demand Side management, Load management and Technology upgrades to provide energy efficient equipment. For more information, visit <http://www.indiacore.com/power2.html>
- Ministry of Non-Conventional Energy Sources: Annual Report 2005-2006. For more information, visit: <http://mnes.nic.in/frame.htm?majorprog.htm>
- From the Ministry of Power: National Energy Conservation Award – 2005: Government and Commercial Sector. For more information, visit: <http://www.energymanagertraining.com/eca2005/Award2005CD/list.htm>
- Petroleum Conservation Research Association: Mission is efficient energy utilization and environment protection leading to Improvement in Quality of Life. For more information, visit: <http://www.pcr.org/English/aboutus/default.htm>

Japan

- Kyoto Protocol Target Achievement Plan, Fundamental Policies under the Act concerning the rational use of energy.

Republic of Korea

- Rational Energy Utilization Act
- National Energy Efficiency Programs. For more information, visit: http://www.kemco.or.kr/english/sub03_energyefficiency.asp?defmenu=3
- Energy Efficiency Standards & Labeling Program. For more information, visit: http://www.kemco.or.kr/english/sub03_energyefficiency.asp
- Energy-saving Office Equipment & Home Electronics Program. For more information, visit: http://www.kemco.or.kr/english/sub03_energyefficiency02.asp
- The High-efficiency Equipments Certification Program. For more information, visit: http://www.kemco.or.kr/english/sub03_energyefficiency03.asp
- The guideline to install renewable energy equipments (MOCIE's Notification 2006-9).
- The regulation of the development of Energy & Resource technology (MOCIE's Notification 2005-92).
- The guideline of electricity price from using renewable energy (MOCIE's Notification 2004-104).
- The guideline of trading of the power generation from small renewable energy (MOCIE's Notification 2005-14).

- The regulation of the certified renewable energy equipments (MOCIE's Notification 2005-134).
- The Voluntary Agreement: The Ministry of Commerce, Industry and Energy and the Ministry of Environment manage a joint program between the government and industry. A company, which intends to join the agreement, should submit a concrete action plan within three months after submitting to KEMCO a letter of intent, specifying energy consumption and greenhouse gas emission reduction target.
- The main areas that ESCOs cover include energy-efficient facility investment, maintenance services for such facilities, and energy management monitoring. ESCOs invest in energy utilizing facilities on behalf of the energy user if the user is unable to replace or improve existing facilities with ones more energy efficient due to technical or financial problems.

United States

- President Bush – Greenhouse Gas intensity goals (2002): For more information, visit: <http://www.whitehouse.gov/ceq/global-change.html> , <http://www.whitehouse.gov/news/releases/2002/02/20020214.html>.
- US DOE - “Projected Benefits of Federal Energy Efficiency and Renewable Energy Programs” (3/2006): For more information, visit: http://www1.eere.energy.gov/ba/pdfs/39684_app_G.pdf
- National Energy Policy (5/2001): For more information, visit: <http://www.energy.gov/about/nationalenergypolicy.htm2>)
- Energy Policy Act of 2005 (EPACT): For more information, visit: http://energycommerce.house.gov/108/energy_pdfs_2.htm)
- US DOE Efficiency/Renewables Strategic Plan (2002): For more information, visit: http://www1.eere.energy.gov/office_eere/pdfs/fy02_strategic_plan.pdf
- US DOE Buildings Program Strategic Plan (1998): For more information, visit: <http://www.eere.energy.gov/buildings/info/documents/pdfs/25096a.pdf>
- US Dept. of Housing/Urban Development. (HUD) Energy Action Plan: For more information, visit: <http://www.hud.gov/energy/energyactionplan.pdf>
- Energy Star Plan: For more information, visit: http://www.energystar.gov/ia/news/downloads/annual_report2004.pdf