

APPENDIX 4

APEC ENVIRONMENTAL GOODS AND SERVICES WORK PROGRAM

In Sydney in 2007 APEC Leaders committed, through wide-ranging and ambitious actions, as set out in the Sydney Action Agenda, “to ensuring the energy needs of the economies whilst addressing the issue of environmental quality and contributing to the reduction of greenhouse gas emissions.” Leaders also affirmed that “An open global trade and investment system is central to our clean development objectives and market opening in the World Trade Organization (WTO) would advance our climate and energy security goals.” and recognized that “Joint research, development, deployment and transfer of low and zero emission technologies will be crucial in our shared efforts to address climate change.”

2. The 2007 Leader’s Action Agenda included co-operative actions and initiatives designed to achieve an objective of supporting economic growth and development of the Asia Pacific region and to further contribute to the reduction of global greenhouse gas emissions.
3. The Committee on Trade and Investment (CTI) has worked since then to address Leaders’ instructions, including by developing an EGS work program as a contribution to APEC’s broader objective of promoting sustainable economic growth in the region. Central to the CTI’s work in this area is the recognition that an open global trade and investment system is necessary for the dissemination and increased utilization of EGS, and that this would be part of APEC’s contribution to global development, economic, and environment objectives.
4. The **APEC EGS Programme Framework** was endorsed by Ministers at the **2008 AMM**. The objectives of the Framework are to support the development of the EGS sector in APEC and to provide a coherent setting for the work under way in various APEC bodies. The Framework has four components: (a) research and development, (b) supply, (c) trade and (d) demand. The full description of the four framework components is as follows:
 - a. **Research and development:** For both goods and services, this refers to developing new and better EGS through innovation and R&D which address not only trade in EGS but also environment and development (i.e. rural development, job creation and applied technology). APEC economies can share ideas and best practices on innovation and R&D programmes that spur the development of EGS.
 - b. **Supply:** For goods, this includes the incorporation of cleaner, more resource and energy efficient technologies. For services, this includes the training of skilled personnel. Both entail a need for more focus and investment in the EGS industry. APEC economies can explore ways to facilitate investment in EGS and share best practices in developing the EGS industry sector.
 - c. **Trade:** This component aims to improve trade in EGS through trade facilitation and trade liberalisation. For the former, APEC MAG (Market Access Group)/GOS (Group on Services) have been developing projects that facilitate trade in EGS. For trade liberalisation, this component adheres to the Doha Para 31(iii) mandate. Recognising that the negotiations will be done in the WTO, APEC MAG/GOS can come up with ways to support the negotiations in the WTO.

- d. **Demand:** An increase in demand will create incentive for the market to increase R&D and investment in EGS. APEC economies can look into sharing best practices in public education on EGS and pro-EGS consumer policies, such as measuring and showing the impact of EGS on the environment.
5. In July 2009 APEC Ministers Responsible for Trade (MRT) welcomed the progress made so far in the development of an APEC work program for EGS (environmental goods and services) as set out in the EGS Framework. They instructed officials to finalise the work program for consideration by the 2009 APEC Ministerial Meeting (AMM).
 6. Consequently, CTI tasked the Market Access Group (MAG) to conduct a **Mapping Exercise**, which identified the work streams relevant to the EGS Framework currently underway across APEC fora and sub-fora. The **Mapping Matrix** is appended here as **Annex 1**. It includes activities and projects initiated or under way in 2009. To allow for improved oversight by APEC economies of the myriad of initiatives underway in APEC in this area, and to identify areas of potential collaboration, the Mapping Matrix will be updated regularly by the APEC Secretariat. Keeping the Mapping Matrix up-to-date will also help us to prevent duplication of resources across APEC fora and sub-fora.
 7. Based on the results of the mapping exercise, APEC members agreed to take the following actions in order to support sustainable economic growth in the region, advance APEC's work to increase utilization of EGS, reduce barriers to trade and investment in EGS and enhance the capabilities of members to develop their EGS sectors:
 - Launch and continue to contribute to the Environmental Goods and Services Information Exchange (EGSIE), a Web site that will serve as a foundation for future work on EGS in APEC, and will promote greater transparency, information-sharing, collaboration, and dissemination of EGS in the APEC region and globally.
 - Identify a "package" of follow-up actions that would enable economies to enhance their sustainable economic development and contribute to the growth of the APEC region. Three key aspects of this would be an identification of: (1) goods and services for which, via increased utilization, an economy would be able to contribute towards climate change mitigation as well as sustainable economic development; (2) concrete steps to facilitate the diffusion of climate friendly and other EGS technologies so as to increase the capabilities of economies to maintain sustainable growth; and (3) capacity-building activities to help ensure that APEC economies, especially developing economies, are able to cultivate and further develop their EGS sectors and meet their sustainable growth goals, including identifying areas of technology transfer of interest to economies and initiating a series of case studies so as to better understand the needs of developing economies in this area.
 - Promote greater dissemination and utilization of EGS by raising awareness of the differing economic conditions and resultant needs of economies; undertaking work to address non-tariff barriers and enhance market drivers to environmental goods through close cooperation among relevant fora, such as local content requirements; explore greater harmonization and convergence of standards, particularly in the area of energy efficiency; facilitate investment in the EGS sector; and
 - Improve understanding and market access for environmental services and services relevant to climate change mitigation.

APEC EGS Projects Mapping**

At MRT 2009, Ministers agreed that APEC could make an important contribution to the success of the Copenhagen Conference by exploring ways to reduce barriers to trade and investment in environmental goods and services (EGS), in particular those goods and services that contribute to the success of our climate change efforts. Ministers also instructed officials to finalize the EGS work programme for consideration by AMM 2009.

The matrix below is a list of EGS projects which are being developed by APEC fora and help make EGS more available in the APEC region. The matrix presupposes that there is no definition of EGS. The categories utilised in this matrix are intended as broad examples only. It will be provided by MAG to CTI Chair for consideration in her drafting up an EGS work programme.

APEC Forum	Description of Initiative	Objectives	Proponents	Categories *	Work Program Component [†]	Status	
COMPLETED PROJECTS:#							
1.	MAG	Workshop on Remanufacturing R&D (Capacity Building)	To enhance understanding of how remanufacturing can benefit economies and governments can help build remanufacturing sectors.	United States	(i) technology	R&D	The workshop and site visits to two remanufacturing facilities were held on 28 March, in Singapore.
NEW PROPOSALS / ON-GOING PROJECTS							
2.	AD	Facilitating the Diffusion and Dissemination of Advanced Technology Demonstration Motor Vehicles throughout the	Economies will streamline import procedures to facilitate the temporary importation of alternative-fuelled, advanced technology vehicles for	United States	(i)technology, (ii) energy efficiency (iii) climate	R&D; Supply; Trade; Demand	Ongoing. Economies will report in Kazan and on an on-going basis on actions taken to align import

* Some broad categories of EGS, which the project could help increase the use of, include: (i) environmentally friendly technology goods and services (technology); (ii) energy efficiency goods and services (energy efficiency); (iii) environmental goods and services necessary or desirable for climate change mitigation and adaption (climate change); (iv) clean air; (v) clean water and (vi) others (eg renewable energy, waster water management, environmental monitoring, analysis and assessment equipment).

[†] The EGS Work Programme framework endorsed by Ministers in 2008 uses the basic value-chain of EGS as a framework to holistically address all aspects of EGS. Four components set out by the framework are: R&D, Supply, Trade and Demand.

Completed projects since the 21 March 2012 version of the matrix.

** This revised matrix is as of **16 May 2012**. Changes made since the 21 March 2012 version are marked in **red bold** text.

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
		Asia-Pacific Region	demonstration and test purposes, and to introduce and expand access to these energy efficient vehicles in markets around the APEC region.		change, (iv) clean air		procedures to the designated common elements.
3.	CTI	Draft APEC EGS Technology Dissemination Action Plan	To create an APEC framework to promote and facilitate environmental technology dissemination; and to enhance capacities of APEC economies to disseminate EGS technologies, particularly those of developing economies to attract, use and develop EGS technologies, as well as develop their EGS industries; and to promote understanding, knowledge and communication on the supply and demands of EGS technologies, unlock EGS technology markets and promote regional trade and investment on EGS; In light of the principle of “common and differentiate responsibilities”, Identify areas of technology transfer through a series of cooperative initiatives so as to better address the needs of developing economies.	China	(i)technology	Supply; Trade; Demand	On-going. A revised proposal will be tabled for consideration at CTI3 with the view to finalising it for AMM in November.
4.	MAG	Environmental Goods and Services Information Exchange (EGSIE)	To provide public and private stakeholders in APEC economies with a means to access and share the latest information, studies, projects and commitments on EGS	Canada, New Zealand, US	(i)technology, (ii) energy efficiency (iii) climate change, (iv) clean air, (v) clean water (vi) others	R&D; Supply; Trade; Demand	On-going. Formally launched in November 2009.
5.	MAG	Updating EGSIE website information	There is a proposal to improve the EGSIE website information on current regulations related to the environmental	United States	(vi) others		On-going.

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			goods and services sector.				
6.	MAG	Facilitating Trade in Remanufactured Products (Transparency)	To take steps to facilitate trade in remanufactured goods by making existing and future tariff and non-tariff measures applied to goods that are not newly-manufactured publicly available, electronically, in their domestic languages, and where possible, in English.	United States and Japan	(i)technology, (ii)energy efficiency	Supply; Trade; Demand	On-going. Information on all existing tariff and non-tariff measures applied to good that are not newly-manufactured will be compiled in 2012.
7.	MAG	Workshop on Remanufactured Goods	To increase awareness on the existence, potential and advantages of the remanufactured goods sector; to enhance understanding on the scope of remanufactured goods; and to share best practices on the treatment of remanufactured good.	Malaysia	(i) technology	Trade	Project was approved in Session 1/2012 and a workshop on remanufactured goods is scheduled in Penang, Malaysia, in October 2012.
8.	EWG	APEC Peer Review on Energy Efficiency (PREE) Phase 3	To share information on energy efficiency performance, as well as policies and measures for energy efficiency improvement; To explore how energy efficiency goals could be effectively formulated in each APEC economy under review, taking into account the diversity of the strategies and circumstances of individual economies; To monitor progress toward attaining energy efficiency goals and the implementation of action plans.	Japan, Viet Nam, Thailand	Energy Efficiency, Climate Change	R&D, Information sharing	Implementation is under way. Workshop was held 27 Feb to 2 March 2012 in Hanoi, Viet Nam. PO presented his report on the 43 rd EWG meeting in K.L. in March. Monitoring Report submitted. (EWG 02/2011)
9.	EWG	APEC Peer Review on Low-Carbon Energy Policies (PRLCE) Phase 1	Share experiences and knowledge on best practices for efficient and effective policies to promote renewable power supplies in developing APEC economies, including how to adapt policies and	Japan, Thailand	Renewable Energy, Energy Efficiency.	R&D	As part of the works, Malaysia was visited from 31 October- 4 November 2011. The second economy was Thailand

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			<p>measures which have been successful elsewhere to the unique conditions of each economy;</p> <p>Encourage developing APEC economies to set individual goals on power supply from renewable resources and to formulate action plans to achieve the goals.</p>				visited on 12-16 December 2011. Monitoring Report submitted. (EWG 04/2011A)
10.	EWG	Renewable Energy Sources in Electricity Markets: Goals and Conditions for Providing Sustainable Development	<p>To estimate the efficiency of measures taken in APEC economies to stimulate the development of use of renewable energy sources and as a result to elaborate recommendations on the unification of best practices applied;</p> <p>To study and change legislation, normative rules, economic models, technical regulations and technologies for appropriate renewables functioning in electricity market relying on best practices;</p> <p>To discuss and distribute the results, contributing to the sustainable development among APEC economies provided access to distant courses on regulatory framework, economics, technologies and best practices for representatives of all APEC economies</p>	Russia	Promoting Renewable Energy, Electricity market	R&D, Trade	On-going. Monitoring Report submitted. (EWG 09/2011A)
11.	Energy Working Group / Expert Group on Clean Fossil Energy	Increasing the Knowledge and Awareness of Carbon Capture and Storage: CCS Capacity Building in the APEC Region (Phase V)	This proposal aims to increase the capacity of developing APEC economies to assess the potential of Carbon Capture and Storage technologies within their own economies and to evaluate options for the uptake and implementation of this	Canada	Capacity building in CO2 emission reduction	Climate Change adaption and mitigation	Monitoring Report submitted. Extension approved till 30 June 2012. (EWG 05/2010A)

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			technology.				
12.	Energy Working Group / Expert Group on Energy Efficiency and Conservation	Survey of Market Compliance Mechanisms for Energy Efficiency Programs	The project aims to survey strategies used by APEC economies to monitor market compliance with energy-efficiency standards and labeling programs for consumer appliances and office equipment. It will compile experience on enforcement issues, market survey techniques, sampling efforts, and compliance indicators used by regulatory and enforcement agencies in APEC economies, in order to provide reference of practical approaches to ensure compliance with energy efficiency standards.	United States	Energy Efficiency, Standards	Market compliance Labelling	Extension has been approved till 30 June 2012. Monitoring Report submitted. (EWG 07/2010A)
13.	Energy Working Group / Expert Group on Clean Fossil Energy	Permitting issues related to carbon capture and storage for coal-based power plant projects in developing APEC economies	To review the work in progress in the region and around the world on relevant legal, regulatory, and permitting issues and frameworks, To identify issues likely to arise if the permitting frameworks being considered were to be applied to future CCS projects in developing APEC economies, and To make recommendations for capacity building needed in developing APEC economies.	United States	Climate Change mitigation, carbon capture and storage	cost-effective capacity building	Extension has been approved till 31May 2012. Monitoring Report submitted. (EWG 04/2010)
14.	Expert Group on Energy Data and Analysis/ Energy Working Group.	Operation of APEC Energy Database and Analysis	To improve the quality of energy policy decision making in APEC member economies and to improve the efficiency of the regional energy market and to strengthen regional energy security through improving the quality and	Japan	Energy Efficiency	Energy Data collection	Extension was approved till 31March 2012. Monitoring Report submitted. (EWG 06/2010)

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			availability of energy data.				
15.	Energy Working Group / Expert Group on Clean Fossil Energy	Phasing Out Fossil Fuel Subsidies to Reduce Waste and Limit CO ₂ Emissions while Protecting the Poor	The ultimate objective of this project is for individual APEC economies to rationalize and phase out fossil fuel subsidies, thereby helping to reduce wasteful fossil fuel consumption, to limit the region's oil import dependency, and to mitigate climate change by reducing carbon dioxide emissions.	United States	Rationalize and phasing out fossil fuel subsidies. Climate change mitigation	Reducing subsidies on fossil fuels	Extension has been approved till 30 June 2012. Monitoring Report submitted. (EWG 11/2010)
16.	Energy Working Group	Efficiency Design for Sustainability (CEEDS) Phase 3	CEEDS Phase 3 is designed to assist participating developing economy delegates from both energy and transportation ministries through the process of developing next steps to improve energy efficiency in the passenger ground transportation sector. The process will be built around two workshops to provide capacity-building and information sharing. Between the first and second workshops, delegates will be expected to discuss their proposed next steps with colleagues at home, and seek their advice on improving the plan, and support for its implementation.	Japan	Energy efficiency, climate change	Transport and implementing high performance policies and measures in efficiency	Two workshops were held: 1 st on 14-16 September 2011 in San Francisco, USA, 2 nd on 17-19 January 2012 in Singapore. Monitoring Report submitted. (EWG 03/2011A)
17.	Energy Working Group/ Low-Carbon Model Town Task Force	Increasing Foreign Direct Investment through human capita development in the area of green township/ eco city that would lead to sustainable development within APEC Economies.	The programmed work will help in develop a sustainable framework for green township/eco city and Assessment tool in the APEC region that can be adapted and adopted by economies. This will take the form of a comprehensive document that will serve as a guide for the development of green township/eco city. It will also enable economies to save	Malaysia	Green Growth, Sustainable development, green townships	Info sharing; building tools to improve eco-cities	The workshop was held on 6 and 7 March in Kuala Lumpur in the margins of EWG 43 rd meeting having more than 100 participants.

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			cost on producing similar documents and undertaking such projects. The document will focus on town and economy planning and the use of green technologies to develop green townships and cities. The document will be the first of its kind in the region. This will also help to achieve some degree of coherence in the development of GREEN township/eco city by member economies.				
18.	Energy Working Group	APEC Peer Review on Energy Efficiency (PREE) Phase 3	The objective of Follow-Up PREE in PREE Phase 3 is to fill the gap between the implementation of energy efficiency action plans and the monitoring and evaluation of those plans. Establishing analytical methods specifically will help to: a) ensure the stipulated goals are measurable; b) define clearly the data needs for monitoring and evaluation; c) establish indicators to measure the real achievements against those planned; and d) provide timely feedbacks for corrections if there are deficiencies in performance.	Japan, Viet Nam, Thailand	Energy Efficiency Monitor progress of economies on energy efficiency	R&D, Sharing information	On-going. Up to this moment eight APEC economies have had the PEER Review. The 9 th was held Indonesia. (EWG 02/2011). Indonesia was visited in February as expected and on 5 th March 2012 during EWG 43 rd meeting APERC released the recommendations.
19.	Energy Working Group/ Expert Group on Energy Data and Analysis (EGEDA)	Operation of APEC Energy Data and Analysis	1. The primary objective of this project is to improve the quality of energy policy decision making in APEC member economies and to improve the efficiency of the regional energy market and to strengthen regional energy security through improving the quality and	Japan	Energy efficiency, monitor progress.	energy demand and supply data and analysis	Workshop was held on 24-26 January 2012 in Brunei Darussalam. Monitoring Report submitted. (EWG 10 2011).

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			<p>availability of basic energy data.</p> <p>2. To collect the energy data and relevant information from member economies, to operate the APEC Energy Database connected to on-line network and to produce and publish APEC Energy Statistics.</p>				EGEDA Chair commented in the 43 rd meeting in Kuala Lumpur (9-10 March /2012) the main results of the workshop.
20.	Energy Working Group/Expert Group on New and Renewable Energy Technologies.	APEC 21 st Century Renewable Energy Development Initiative (Collaborative IX): Stock-take of electric vehicle interface with electricity and smart grids across APEC economies and the potential for harmonisation	To enhance understanding in APEC economies of Electric Vehicles (EV) connectivity to electricity grids and identify opportunities to increase the harmonization of standards and requirements to promote the deployment and integration of EVs, both vehicles and supporting technologies, by providing: 1.- An assessment of current and planned grid and vehicle interconnection standards and regulations for EV deployment in different APEC economies; 2.- An assessment of EVs in existing and proposed smart grid deployment projects and policies; and 3.- Recommendations on opportunities where improved harmonization in EV – grid connectivity standards and requirements can reduce barriers for trade and promote deployment; 4.- To provide a uniform source of information to car makers and other EV technology investors to minimize public and private costs.	New Zealand	Energy efficiency, harmonisation of standards, smart grids.	Info-sharing, R&D, Trade improvement	On-going. Contract already signed. Workshop will be held in following weeks. Monitoring Report submitted. (EWG 11 2011)
21.	Energy Working Group / Expert Group on Clean Fossil	APEC Unconventional Gas Census: Evaluating the Potential for Unconventional	To share experiences and exchange information on surveys of unconventional gas resources completed, underway or	United States	Energy Efficiency, Unconventional	R&D, Info-sharing	On early stages of implementation. Bidding already released.

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	Energy.	Gas Resources to Increase Gas Production and Contribute to Reduced CO ₂ Emissions	<p>planned for different APEC economies, and on relevant activities by other international fora.</p> <p>To develop a report to the Energy Working Group containing:</p> <ul style="list-style-type: none"> Potential amounts of each type of unconventional gas that could be practically and economically produced in each economy throughout the APEC region, including a timeframe for their availability; Suggested framework, scope and content of an APEC unconventional natural gas census ‡, and relationship to other relevant international and national activities. Recommendations for setting up an APEC unconventional natural gas census, including scope, content, timing, and management responsibility. 		energies		Monitoring Report submitted. (EWG 12 2011)
22.	EWG - Expert Group on Energy Efficiency and Conservation (EGEE&C)	Energy Performance Evaluation Methodology Development and Promotion in APEC Economies	Seeks to summarize and analyze energy performance evaluation methodologies, guidance and practices in APEC economies and other economies, develop a typical and comprehensive energy performance evaluation methodology for industrial enterprises, provide best practices case studies mainly based on China's experiences, propose a harmonized	New Zealand, Chinese Taipei	Energy efficiency, energy performance evaluation.	Info-sharing, best practices, harmonization	The project is in the early stages of implementation. Contract already awarded to CIEE-China. Monitoring Report submitted. (EWG 14 2011T)

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			approach and implementation recommendations, and hold a workshop to share and promote the project outputs.				
23.	Energy Working Group / New and Renewable Energy Technologies Expert Group (EGNRET)	Piloting Smart / Micro Grid Projects for Insular and Remote Localities in APEC Economies	<p>To compile and share to member economies' experiences in introducing new technologies for local energy systems including smart & micro grid technologies to support sustainable development of remote and isolated areas;</p> <p>To review microgrid as a critical component of smart grid concept for local energy systems with a view to maximize the economic and environmental effect of tested and ready-to-use technologies;</p> <p>To provide a menu of options to APEC economies for piloting of smart/micro grid projects in the form of assessment methodologies, business scenario models and specific recommendations</p>	Russia	smart & micro grid technologies.	R&D, Supply, Demand	Project approved on Session3/2011. Monitoring Report submitted (EWG 15 11A)
24.	Energy Working Group (LCMT , EGNRET)	Promotion of Energy Efficiency and Renewable Energy in Low Carbon Model Town of APEC through Distributed Energy Source – Identification of Potential, Challenges and Solutions	The project aims to study and identify the potential, challenges and solutions for application of distributed energy sources in promoting energy efficiency and renewable energy in low carbon model towns of APEC. This responds directly to the declaration by the Energy Ministers in Ninth meeting of APEC Energy Ministers at Fukui Japan in promoting energy efficiency and renewable energy technologies, and in implementing APEC low-carbon model town project.	China	Energy Efficiency, Renewable energies	R&D, Supply, Demand	Project approved on Session3/2011. Monitoring Report submitted. (EWG 17/2011A)
25.	Energy Working	APEC Low Carbon Model Town	The key activities are; 1) to develop “the	Japan,	Climate Change	R&D	Project approved on

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
	Group	(LCMT) Project Phase 2	Concept of the Low Carbon Town in the APEC region"; 2) to assess the Samui Island (Thailand) low carbon town development project as a model on both technical aspects through Feasibility Study and Policy aspects through Policy Review. The "Concept", which was developed in LCMT Phase 1, will be further refined by Study Group Feasibility study will be conducted by a qualified low carbon design consultant, while Policy Review will be conducted by Study Group B. Both Study groups will be formed by the experts from interested member economies and relevant APEC Expert Groups.	Canada, China, Korea, Chinese Taipei, USA	mitigation,		Session3/2011. Monitoring Report submitted. (EWG 18 2011A)
26.	EWG / Expert Group on New and Renewable Technologies / Expert Group on Energy Efficiency and Conservation	Best Practices in Energy Efficiency and Renewable Energy Technologies in the Industrial Sector in APEC Region	The key objective of the project is to develop a report which clearly identifies the examples of successful adoption of new and renewable energy technologies combined with energy efficiency in the APEC industrial sector, the obstacles that prevent the adoption of technologies, and the applicability of lesson learned from previous reports including APEC supported activities. The final output will be suggested roadmap for the successful implementation of industrial sector new and renewable energy and energy efficiency system in APEC member economies.	Thailand	Energy Efficiency, New and renewable energies	R&D, Supply, Demand	Project approved on Session3/2011. Monitoring Report submitted. (EWG 19/2011A)
27.	Energy Working Group	Achieving low-carbon development in APEC's communities by using higher-	To create a framework of necessary theoretical basis for the widely application of the gas-fired cogeneration projects in	China	Energy Efficiency, Renewable	R&D, Supply, Demand	Project approved on Session3/2011. Monitoring Report submitted.

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		efficiency and cleaner gas-fired cogeneration technology	<p>APEC economies;</p> <p>To enhance understanding on the natural gas cogeneration to the sustainable development of the low-carbon communities;</p> <p>To review strategies in city planning, introducing more clean energies to low carbon intensity by application of gas-fired cogeneration projects.</p>		energies, Low-carbon energies		(EWG 20/2011A)
28.	Energy Working Group	Maximizing the Energy Efficiency and Clean Utilization of Low Rank Coals Through Innovative Technologies in APEC Economies	This project is designed to address the financial, technical and policy issues concerning the applications of staged conversion and poly-generation technologies to low rank coals so as to enhance its further development and industrialization and facilitate its technology transfer, and therefore to maximize the energy efficiency and clean utilization of low rank coals in the APEC economies.	China	Energy efficiency, low carbon projects	R&D, Supply, Demand	Project approved on Session3/2011. Monitoring Report submitted. (EWG 21 2011A)
29.	Energy Working Group	APEC Workshop on Paths toward Sustainable Low Carbon Economies Based on Rational Use of Renewable Energies	<p>To share and assemble information and experiences on available and affordable renewable technologies, covering the aspects of technical, standards and regulations, economic and social topics;</p> <p>To enhance the understanding of the rational use of renewable energies through analysis and evaluation of real demonstration cases from single solar buildings to eco-cities in the meeting place; and</p> <p>To develop rational use methodology</p>	China	Energy efficiency, New and Renewable energies	R&D, Supply, Demand	Project approved on Session3/2011. Monitoring Report submitted. (EWG 22 2011A)

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			systems of various local renewable energies aiming at typical communities of residential and industry zones for sustainable low carbon economies, establish rational use methodologies systems for the development of renewable energies serving low carbon APEC economy growth modes.				
30.	Energy Working Group / New and Renewable Energy Technologies Expert Group (EGNRET)	Prospects for Marine Current Energy Generation in APEC Region	<p>To compile widely dispersed information on the deployment of marine current generating technologies and to make this information accessible to APEC economies with a view of delivering advice on:</p> <ul style="list-style-type: none"> - how to assess the need for and feasibility of marine energy generation, - how to choose proper technology, - how to engage Regional Equipment Manufacturers in a reliable supply chain, including maintenance services, - how to better integrate renewables into existing electric grids, - how to mobilize finance while minimizing the risks for the investors, how to reduce operating costs. 	Russia	New and Renewable energies, smart grids	R&D, innovative technologies	Project approved on Session3/2011. Monitoring Report submitted. (EWG 23 2011A)
31.	Energy Working Group / Expert Group on Clean Fossil Energy	APEC Unconventional Gas Expert Workshop	<p>This project seeks to:</p> <p>Organize an expert workshop to share experiences and exchange information on the current status of surveys of unconventional gas resources completed,</p>	United States	New and Renewable energies	R&D	Project approved on Session3/2011. Monitoring Report submitted. (EWG 16 2011)

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			<p>underway or planned for different APEC economies, and on relevant activities by other international fora;</p> <p>Obtain feedback from government and industry experts on the final report of the EWG 12/2011 project, including its recommendations; and</p> <p>Provide advice to the EGCFE in the form of a multi-year work plan for follow-on work on an unconventional gas census.</p>				
32.	Energy Working Group / Expert Group on Clean Fossil Energy	Feasibility of Accelerating the Deployment of Carbon Capture, Utilization and Storage (CCUS) in APEC Developing Economies	<p>The objectives of the project are:</p> <p>To produce a feasibility assessment for CCUS-EOR in APEC developing economies, including:</p> <p>Data and information needs for evaluating CCUS-EOR opportunities,</p> <p>Barriers to exploitation of these opportunities,</p> <p>Policies and programs to facilitate the development of large-scale CCUS-EOR demonstration projects,</p> <p>Elements of CCUS-EOR permitting frameworks that are likely to require particular attention by the relevant authorities in developing APEC economies, and</p> <p>Recommendations for cost-effective capacity-building activities in the area of CCUS-EOR in these economies.</p> <p>To share experiences in and disseminate the most up-to-date information from APEC, the CSLF, and other international</p>	United States	New and Renewable energies	R&D, Supply, Demand	Project approved on Session3/2011. Monitoring Report submitted. (EWG 24 2011)

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			fora concerning the identification of potential opportunities for reuse of CO ₂ from fossil fuel power generation in developing APEC economies, in particular for enhanced oil or gas recovery.				
33.	Energy Working Group	APEC Cooperative Energy Efficiency Design for Sustainability(CCEEDS); Phase 4	CEEDS Phase 4 will focus on policies and strategies to promote the growth of ESCOs (Energy Service Companies) and their energy-saving projects. An ESCO is a business that provides a wide range of professional services, including design, construction, operation and maintenance, aimed at reducing energy consumption for client energy consumers. The first workshop is scheduled on late 2012 with the second workshop on early 2013. Chinese Taipei and Thailand are expected to host the workshops.	Japan	Technology, Energy Efficiency	R&D, Supply, Demand	Project approved in Session 1/2012. Not started yet (EWG 01 2012A)
34.	Energy Working Group	Combined heat and power (CHP) technologies for distributed energy systems	<ul style="list-style-type: none"> - To survey the current APEC economies' priorities, strategies and plans for the CHP application in distributed energy generation and also to study the European initiatives, strategies and legislation in this area; - To study and share best practices and experiences of practical projects in which CHP technologies are applied for distributed energy generation in cold climate and/or on islands; - To develop recommendations for promoting use of CHP in distributed 	Russian Federation	Energy Efficiency, capacity building, technology sharing	R&D, Supply, Demand	Project approved in Session 1/2012. Not started yet (EWG 09 2012)

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			energy generation in specific conditions (islands and cold climate territories) including measures aimed at overcoming barriers identified during the project.				
35.	Energy Working Group	Promoting the technologies of low carbon power generation and low cost CO ₂ capture in APEC developing economies	<p>To create a framework for low carbon power generation and low cost CO₂ capture technologies in APEC developing economies, including: to collect the data and knowledge needs for evaluating low carbon power generation and low cost CO₂ capture;</p> <p>To understand the difficulties and barriers to exploitation of the technologies for low carbon power generation and low cost CO₂ capture; to recommend for cost-effective capacity-building activities in the area of low carbon power generation and low cost CO₂ capture in these economies.</p> <p>To share experiences in and disseminate the most up-to-date information from APEC, carbon Sequestration Leadership Forum and other international forum concerning the identification of potential opportunities for low carbon power generation and low cost CO₂ capture in developing APEC economies.</p>	China	Capacity building; CO ₂ capture; sharing experiences	R&D, Supply, Demand	Project approved in Session 1/2012. Not started yet (EWG 02 2012A)
36.	Energy Working Group/ Expert Group on New and Renewable Energy Technologies	Small Hydro and Renewable Grid Integration Workshop	This project will allow APEC member economies to share experiences on an important clean energy resource that is available in rural areas across the APEC region. A principal result will be a road map on the way forward to address	Viet Nam	Capacity Building, smart grid, sharing experiences.	R&D, Supply, Demand	Project approved in Session 1/2012. Not started yet (EWG 05 2012A)

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			problems that are arising with the integration of small scale hydro and other renewables into the modern electric grid.				
37.	Energy Working Group	Study of Demand Response's Effect in Accommodating Renewable Energy Penetration in the Smart Grid	<p>This project analyses the feasibility of demand response's effect in accommodating renewable energy penetration, to study the mechanism and effect of demand response in accommodating renewable energy penetration.</p> <p>Also, studies the win-win benefit distribution model of multi-user like government, power companies, energy agencies and third-party. The best supporting policies and regulations of demand response. It will have results on the available programs like incentive-based demand response programs and the implementation proposal of demand response pilot, taking full account of the basic situation of the economy, not only providing a favourable reference for economies' implementation of demand response in future, but also providing a new way of energy use for enterprises and users in the economies, to further improve energy efficiency and reduce system operating costs and carbon emissions.</p>	China	Energy Efficiency; renewables; demand response	R&D, Supply, Demand	Project approved in Session 1/2012. Not started yet (EWG 04 2012A)
38.	Energy Working Group(EWG) , APERC,EGNRET, LCMT	The comprehensive analysis and research of key technologies and commercial model of Low Carbon Model	To ensure the safety of energy supply and promote renewable energy utilization by providing a platform which could collect real-time information from both energy supply and demand side and consequently could help the management staff to	China	Energy supply; Energy demand renewables, capacity building; sharing good	R&D, Supply, Demand	Project recently approved in-principle in Session 2/2012. Project Proponent will be developing the Full Project Proposal for approval by BMC

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
		Town applied in Yujiapu CBD	<p>improve operation.</p> <p>(2): To share best practice and experiences with stakeholders and policymakers throughout the APEC region.</p> <p>(3): To promote the cooperation among APEC through the special survey of low carbon technologies and management.</p>		practices.		Members.
39.	EWG / EGNRET	Establishing Low Carbon Energy Indicators for Development of APEC Low Carbon Town	<ul style="list-style-type: none"> - Establish a set of low carbon energy indicators such as energy consumption per GDP and CO2 emission per GDP as well as shares of renewable and non-fossil energy etc., to estimate CO2 reduction potentials of low carbon technologies, evaluate the progress toward CO2 reduction targets and effects of low carbon energy strategy and plan in development of low carbon town. - Share the information and experiences on low carbon energy indicators in APEC economies, and local practices of low carbon model town, such as widely applying renewable energy and distributed energy system, improving energy efficiency in urban, promoting public traffic and new energy cars etc. - Propose suggestions on low carbon measures in participation economies, such as setting-up CO2 reduction target, developing incentive policies on low carbon technologies and action plans towards to low carbon town etc. 	China	Low carbon initiative, non fossil energy, applying of renewable energy	R&D, Supply, Demand. Info sharing	Project recently approved in-principle in Session 2/2012. Project Proponent will be developing the Full Project Proposal for approval by BMC Members.

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
40.	EWG / EGEE&C	APEC-ASEAN Harmonization of Energy Efficiency Standards for Air Conditioners: Phase 1	<p>The overall long-term objective of this project is to pave the way for a market transformation in favour of higher efficiency air conditioners and to remove non-tariff barriers to trade through the harmonization of EE standards for air conditioners. The specific objective of this project is to harmonize standards for testing methods for air conditioners among ASEAN economies, as the necessary preliminary step towards achieving the long-term objectives.</p> <p>Output 1: Standards for testing methods for air conditioners are harmonized among ASEAN economies</p> <p>Output 2: A roadmap for harmonization of testing methods for air conditioners in APEC is formulated</p> <p>Output 3: A roadmap for harmonization of EE standards in the ASEAN is adopted by the ASEAN EE&C Sub-Sector Network</p> <p>The objective of phase 1 is to achieve output 1.</p>	Japan	Energy Efficiency, Remove non-trade barriers, Harmonization of standards	R&D, Supply Demand. Harmonization	Project recently approved in-principle in Session 2/2012. Project Proponent will be developing the Full Project Proposal for approval by BMC Members.
41.	EWG / EGEE&C	Workshop to support the development of national lighting design centers in the APEC region	<p>The project will support a workshop to be held along-side an APEC Expert Group on Energy Efficiency and Conservation (EGEEC) meeting that would bring together representatives from successful lighting design centers and leading researchers and government representatives from APEC member economies.</p> <p>The workshop will be targeted at both the presentation of best practices and the</p>	United States	Energy Efficiency, Harmonization	R&D Harmonization	Project recently approved in-principle in Session 2/2012. Project Proponent will be developing the Full Project Proposal for approval by BMC Members.

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			definition of the next steps forward in the development of national lighting design centers in multiple APEC member economies.				
42.	EWG / EGEE&C	APEC Distribution Transformers Survey: Estimate of Energy Savings Potential from Increase in Minimum Energy Performance Standard	<p>To increase awareness among APEC economies on the energy savings and GHG emission reduction potential from an increased share of higher efficient DTs, as well as to provide APEC economies with recommendations on how to increase the market share of higher efficient DTs.</p> <ul style="list-style-type: none"> - Objective 1: Establish a baseline data set for use in analysis of potential energy savings from increasing energy efficiency of the transformers being sold in APEC economies. This must include assessments of currently installed stocks, rates of replacement and new transformer installations all by size and efficiency and by sector; - Objective 2: Provide a quantitative framework of energy savings and GHG emission reduction potential related to the technologically feasible and economically justifiable increase in energy performance of DTs in APEC economies with the starting baseline position and assumptions clearly identified and a range of possible improvement options and their effects presented. - Objective 3: Share experiences among APEC economies about successful and 	China	GHG Reduction, Info-sharing,	R&D, Supply Demand	Project recently approved in-principle in Session 2/2012. Project Proponent will be developing the Full Project Proposal for approval by BMC Members.

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			less successful EES&L programs for DTs				
43.	EWG / EGNRET	Research on the Application of Physical Energy Storage Technology to Enhance the Deployment of Renewable Energy in APEC low Carbon Town	<p>(1). Propose the flexibility evaluation system for the efficient energy storage. According to the different climate parameters, economic situation and building functional requirements in APEC regions, the flexibility evaluation for energy storage system with various hybrid energy including solar energy, geothermal energy, industrial waste heat application will be proposed.</p> <p>(2). Optimize the energy storage system with renewable energy</p> <p>The energy storage technology with renewable energy which applies to the APEC regions will be developed after significant research work including modeling and simulation. Experiments will be performed to keep the energy storage system work with low operating cost.</p> <p>(3). Optimize the indoor thermal comfort of buildings</p> <p>A building with energy storage system will be set up as a demonstration project. Thermal performance experiments will be carried out based on the demonstration project. The indoor thermal comfort and the operation parameters of this system will be obtained, which will provide the basis for optimizing the performance characteristics.</p>	China	Energy Storage, Renewables,	R&D, Info-sharing	Project recently approved in-principle in Session 2/2012. Project Proponent will be developing the Full Project Proposal for approval by BMC Members.
44.	EWG / EGEE&C	Energy Saving Window Thermal	<ul style="list-style-type: none"> Develop and implement an APEC economy pilot, regional simulation and test 	Thailand	Energy Efficiency on	R&D Info-sharing	Project recently approved in-principle in Session

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
		Performance Simulation Training	<p>centre that can be replicated throughout APEC economies where building envelope energy saving opportunities will be taught and implemented</p> <ul style="list-style-type: none"> • Train APEC participants to perform energy saving window rating thermal simulations • Enhance energy efficient building practices understanding by developing building envelope component ratings 		buildings, Info-sharing.		2/2012. Project Proponent will be developing the Full Project Proposal for approval by BMC Members.
45.	GOS	Study Programme on APEC Environmental Services-Related Technology Market	To survey and analyze the environmental services (ES)-related technology market within APEC economies, which aims at facilitating potential ES and ES-related technology trade and investment, and promoting greater dissemination of ES-related technology.	China Chile Thailand	(i)technology, (ii)energy efficiency, (iii)climate change, (iv)clean air, (v)clean water (vi) others	Supply Trade	On-going. A Workshop on Environmental Service and Environmental Service-related Technology was held on 31 March in Singapore. A study will be conducted during the second half of 2012. (CTI35/2011T)
46.	HRD	Human Capital Policies For Green Growth and Employment	To examine human capital policies in APEC member economies, and adjust human resource development policies for sustainable, "green," energy efficient growth and employment through a survey of member economies and a symposium on green growth skills.	US	(ii)energy efficiency, (vi) others	R&D, Supply	This HRD project is approved by BMC in June 2011 and has been implemented.
47.	ISTWG (Industrial Science and Technology Working Group)	Cooperative Study on Efficient Renewable Resources Integration and Distribution Technologies for Smart Grid Construction	<p>To analyze technologies on integration of renewable energy sources into smarter grid and give advice to stakeholders when the technologies are applied in practical projects;</p> <p>Experiences of applying the technologies</p>	China	Renewable Energy, Smart grid, to reduce energy waste.	R&D, Info sharing	On-going. Monitoring Report submitted. (IST 01/2011A)

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			<p>on renewable energies integration in the grid network will be shared among APEC economies. APEC developing economies will take the opportunity to enhance their capacity in the area.</p> <p>To facilitate the reduction of energy wastage by encouraging projects with recommended technologies in this project to help achieve a low carbon society and safeguard the quality of life through sustainable growth.</p>				
48.	Industrial Science and Technology Working Group (ISTWG)	APEC Research Center for Typhoon Flood Prediction (Self-funded project)	The project aims to (1) A regional Typhoon researches center to enhance the prediction abilities (2) Training program and workshop for the Typhoon (3) Developing new numerical method and program to fit the uniqueness of the geographical features (4) Build a data exchanging system of Typhoon information.	Chinese Taipei, the Philippines	(i)technology, (iii) climate change	R&D; Supply	
49.	ISTWG	Develop the eco-environmental impact assessment estimating tool (Self-funded project)	To develop the prototype technology of design for electronic waste recycling to reduce carbon foot print and to reach the optimum use of resources.	Chinese Taipei	(i)technology; environment	R&D	On going. This project is the joint project with International Electronic Manufacturing Initiative (INEMI). The benefit of this project will facilitate the product eco-design for a better environment and resource conservation.
50.	ISTWG	Climate Change Adaptation in the Asia Pacific	1) Build capacity in science observation and information resources on climate	United States, Japan	Climate Change adaptation.	Info-sharing, R&D, Capacity	On-going. Monitoring Report submitted.

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			<p>information products and global observation systems.</p> <p>2) Augment the region's capability to utilize the science that underpins decision making and ensure that organizations that maintain such products will be able to share their products with government officials.</p> <p>3) Build capacity in climate change adaptation by addressing specific topics of interest to developing member economies. Possible topics include water resource management in a changing climate, agricultural resilience, fisheries and marine resource management, marine and coastal adaptation, coastal communities and/or resources and finance for climate change adaptation.</p>			building, harmonisation	(IST 03 2011A)
51.	ISTWG	Seminar on Development of Engineering Professionals in APEC Economies	<p>The project aims to exchange experience between economies-members of APEC Engineers Register in the field of regulations of engineering activity, promoting professional mobility of engineers, and development of engineering education.</p> <p>The two-day seminar is planned, in May, 2012 which will be held in Far Eastern Federal University (Kazan, Russia).</p>	Russia	Technology innovation, Education.	R&D	Monitoring Report submitted. (IST 06 2011A) Workshop was held on 22-23 of May 2012 in Kazan, Russia.
52.	ISTWG	APEC Network Building : Applied Space Technology Centres	This project aims to enhance the region's capacity in using satellite monitoring data for sustainable economic growth support in APEC. Application of satellite data for	Russia	Researching, Communication networking	R&D	Project approved on Session3/2011. Monitoring Report submitted (IST 07 2011A).

	APEC Forum	Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			<p>monitoring and control ensures different, higher level of ecological and technological safety. At the same time many perspective remote sensing programs are not transferred from research to steady work. The objectives of this project are Applied Space Technology Centres (ASTC) network building and support of introduction of successful pilot research activities into practice.</p>				
53.	ISTWG	<p>Harnessing and Using Climate Information for Decision-making in Agriculture</p>	<p>The project aims to increase the ability of member economies to anticipate and adapt to climate variability and change and build resilient agricultural systems. The project will seek to realize this by fulfilling the following objectives: <i>Capacity building workshops on applying climate information to agriculture</i>. This project aims to fill the information gap by bringing climate scientists together with agricultural agency officials, NGO workers, and other stakeholders to interface and discuss the issues behind incorporating climate information into agricultural policy and farm management.</p> <p><i>Knowledge and technology transfer through climate prediction sessions</i>: The project will feature presentations and discussions from leading experts on latest research findings and state-of-the-art technologies in climate prediction. Topics will include improving forecast skill, climate forecast systems in NHMSs, and frontline technologies in research centers.</p>	Republic of Korea	Capacity building; Climate Change; Knowledge sharing	R&D, Supply, Demand	Project approved in Session 1/2012. Not started yet. (IST 01 2012A)

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			Scientists from developing economies will receive critical information and training on regional climate prediction.				
54.	ISTWG	APEC Smart City Industrial Technology Cooperation Forum	The project will create a framework for cooperation amongst APEC economies' smart technology industry. It will ensure participants will be able to obtain the latest knowledge in the smart technology industry. Furthermore, this project will share experiences from research institutions and enterprises to enhance peoples' understanding of smart technologies and smart cities.	China	Smart Technology to fight Climate Change.	R&D Info-sharing	Project recently approved in-principle in Session 2/2012. Project Proponent will be developing the Full Project Proposal for approval by BMC Members.
55.	ISTWG	Low Carbon Intelligent Operations for Textile Industry in APEC Economics	A unique avenue to share most recent advances on carbon footprint analytical and measurement methods. Discuss, identify, and promote low carbon material processing procedures for the textile manufacturer in APEC economics. Enhance the flow of information among APEC member economics regarding low carbon material processing procedures.	Chinese Taipei	Low carbon technologies. Info-sharing	R&D Info-sharing	Project recently approved in-principle in Session 2/2012. Project Proponent will be developing the Full Project Proposal for approval by BMC Members.
56.	CD (Chemical Dialogue)	APEC Strategic Framework on Chemicals	To facilitate alignment of the Leaders' goals for sustainable economic growth and regulation; to promote regulatory capacity and convergence for enhanced environmental and health protection while avoiding potential barriers to trade; and to enhance chemical management and product stewardship over the life cycle and in cooperation with other	US	(i) technology, (ii) energy efficiency (iii) climate change, (iv) clean air, (v) clean water (vi) others	R&D; Supply; Trade; Demand	At their November 2010 meeting in Yokohama, Japan, Ministers endorsed the multi-year work strategic framework adopted by the Chemical Dialogue as a contribution to moving forward APEC's trade and investment and

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			initiatives and institutions where appropriate.				liberalization agenda and noted the chemical sector's contributions to growth. APEC Regulatory Cooperation Plan endorsed in 2011 AMM in Hawaii will be the guiding paper for future implementation. CD Regulators' Forum will be held in March 2012 in Singapore. Conference on Concept of Data Exchange on Chemical Products and Chemical Substances Hazardous Properties will be held during 2012 SOM 2 cluster meetings in Kazan Russia in May.
57.	CD (Chemical Dialogue)	Concept of Data Exchange on chemical products and chemical substances hazardous properties	One of the main problems in forming area of free chemical trade is ensuring safe circulation of chemicals. To solve this problem, CD members will discuss possibility to join informational resources into one global information resource and to specify frameworks for such activity.	Russia	Technology; Capacity building; Knowledge sharing	R&D; Supply; Trade; Demand	Project recently approved in Session 1, 2012(S CTI 07 12T)
58.	CD (Chemical Dialogue)	Regulatory Cooperation – Introductory Level Training in Risk Assessment and Risk Management to Provide Tools for the Development of Sound Chemical Regulations	The project seeks to provide introductory level training on risk assessment and risk management of chemicals to regulators in the region. The goal is to increase the capacity on risk assessment and risk management of chemicals, so that regulatory approaches in the region are	US	Technology; Capacity building; Knowledge sharing	R&D; Supply; Trade; Demand	Project recently approved in Session 1, 2012 (S CTI 05 12)

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			developed in a sound manner and, in the long term, facilitate the trade of chemicals among economies in the region.				
59.	SCSC	Trade Facilitation Task Force (TFTF)	To exchange views and information on the nexus between the trade and technical aspects of product-related environmental standards, technical regulations and conformity assessment procedures.	Korea, US	(i)technology, (ii)energy efficiency, (iii)climate change, (iv)clean air, (v)clean water	Supply; Trade; Demand	On-going. Established in 2006. The most recent TFTF held on February 23, 2009 to exchange views and information on the connection between trade and product-related environmental <i>standards</i> , <i>technical</i> regulations and conformity assessment procedures. A TFTF Meeting-Special Session on Carbon Foot Printing was held on 17 September in Sendai.
60.	SCSC	Solar (PV) Standards and Conformance Measures Survey and Workshop	Increase transparency of various economies' standards and conformance regimes for solar photovoltaic (PV) technologies to enable standards experts to gauge the level of harmonization of PV standards and conformance methodologies within APEC and determine areas for increased cooperation and harmonization Expand information sharing on the development and use of renewable energy sources to mitigate the	United States	(ii)energy efficiency (iii)climate change	Supply; Trade; Demand	Workshop to be held in SOM 3, 2011.

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			environmental impact of energy use –in order to reduce discrepancies among APEC economies regarding the adoption and use of solar products; and Avoid creating unnecessary obstacles to trade in PV products stemming from PV standards and conformity assessment procedures.				
61.	SMEWG	APEC Global OVOP Support Measure Best Practices	Phase 1: Study the various types of “One Village, One Product” support programs and highlight best practices. Phase 2: One-day seminar to share OVOP best practices and discuss ways to enhance international cooperation.	Japan	(i) technology; (ii) energy efficiency; (iii) climate change; (vi) others.		Phase 1: a survey with self-funding was used to collect OVOP best practices and compile key success factors of the best practices. Phase 2: The OVOP seminar was held on 14th December, at the margins of the 33rd APEC SMEWG in Bangkok, Thailand, and reported the findings of the survey at the seminar.
62.	SMEWG	Green Initiative Study and Workshop	To define areas and elements of green innovation policies and to develop a Green Action Plan template. The Green Initiative is the 2 nd cycle of the Daegu Initiative.	Korea	(i) technology; (ii) energy efficiency; (iii) climate change; (iv) clean air; (v) clean water and (vi) others.		Workshop was held at the margins of the 33 rd SMEWG in Bangkok, in December 2011.
63.	SMEWG	Green Initiative Study and Workshop 2	The project will discuss GAPS for areas not covered in the previous workshop, and share best practices. The “GAPS” submitted by member economies will be compiled and recommendations will be made to facilitate further discussion among member economies as well.	Korea	(i) technology; (ii) energy efficiency; (iii) climate change; (iv) clean air; (v) clean water and (vi) others.		Workshop will be held in Brunei in April 2012 at the margins of the 34 th SMEWG meeting

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
64.	SOM	Proposal on “Establishing an APEC Strategy on Illegal Logging and Associated Trade”	To address the issue of “illegal logging and associated trade is a significant problem facing the Asia-Pacific region with adverse economic, environmental, and social impacts, APEC MRT instructed officials to establish an experts group to promote trade in legally harvested forest products, combat illegal logging and associated trade, and build capacity as well as to identify by November 2011 measures for economies to consider taking to address this problem.	United States, Indonesia and Chile	(iii) Climate change	Supply; Trade; Demand	The co-sponsors have circulated a draft terms of reference for the proposed APEC Experts Group on Forest Products Trade for SOMs’ comment by 2 September in order for a revised draft to be circulated in advance of SOM3.
65.	TELWG	Study Workshop on Best Practice Transfer of Green ICT for Sustainable Growth	To raise awareness of the necessity of and to disseminate practical knowledge and best practices on the implementation of Green ICT across APEC economies; to develop a mechanism for building a greener regional economy and promote APEC economic integration and sustainable growth by Green ICT.	Thailand	(i)Technology, (ii) Energy efficiency (iii) Climate change	R&D; Supply	Full project proposal endorsed in December 2010. (TEL02/2010A) Online survey to be completed by August 2011 and one-day workshop was held on 22 September 2011.
66.	TPTWG (joint with EWG)	Transport, Energy and Environmental Benefits of Intermodal Freight Strategies	To help APEC economies to shift freight transport from energy-intensive to energy-economising transport modes, including use of alternative fuels, with particular findings on capacity building in intermodal transport for developing economies which are planning major infrastructure expansion. Benefits of intermodal freight transport would be evaluated in terms of reduced oil imports, reduced greenhouse gas emissions, and reduced transit times for freight shipments.	US	Technology Energy efficiency Reduced emissions	R&D Supply Trade Demand	On-going. Contract signing stage. (TPT 01/2010A)

APEC Forum		Description of Initiative	Objectives	Proponents	Categories*	Work Program Component [†]	Status
67.	TPTWG	Energy, Transport and Environmental Benefits of Transit Oriented Development	To identify baselines for the expansion of transit-oriented development in terms of reduced oil imports reduced greenhouse gas emissions and reduced travel times in the APEC member economies.	US	Technology Energy efficiency Reduced emissions	R&D Supply Trade Demand	On-going. RFP stage. (TPT 04/2010)
68.	Economic Committee	Regulatory Reform – Case Studies on Green Investments	To conduct case studies that evaluate regulatory practices concerning the promotion of green investments in renewable energy and energy-efficient technologies, especially in terms of these criteria to be considered when establishing/revising regulations.	Japan (EC FOTC on Regulatory Reform), PSU	(i) technology; (ii) energy efficiency; (vi) others.	R&D, Supply, Trade and Demand	On-going. Coordinated by PSU. Progress Report is being reviewed. Final Draft expected by June 2012 .
69.	IEG	S CTI 34 11T (IEG) - Seminar on Successful Cases of Renewable and Clean Energy Investment in APEC	To Increase understanding and raise awareness of opportunities for investment within APEC economies in RCE through holding information exchange seminar on successful cases of RCE investment. To Share experiences, lessons and opinions on the role of cross-border investment in increasing utilization of RCE and dissemination of RCE technologies. To Share experiences on facilitation and promotion of cross-border RCE investment.	China	(ii)energy efficiency (iii)climate change	Demand	The seminar to be held in China in June 2012.
70.	SCSC	CTI 04/2012T (SCSC) Aligning Energy Efficiency Regulations for ICT Products – Developing a Strategic Approach	To prevent unnecessary market access barriers for ICT products and increase the availability and use of innovative, energy efficient products in markets worldwide. To advance the ongoing public-private	USA	(i)technology, (ii)energy efficiency, (iii)climate change,	Supply; Trade; and Demand	Project Proposal is expected to be approved at BMC at session1 2012.

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
			<p>dialogue among APEC economies regarding ways to align ICT product energy efficiency requirements through the development and use of global standards and more trade-friendly conformity assessment procedures.</p> <p>To identify and seek economies' support for specific strategies to accomplish this alignment.</p>				
71.	SCSC	S CTI 30 11T (SCSC) – Workshop on Regulatory Approaches to Smart Grid Investment / Deployment	<p>To enhance coordination among regulatory authorities including international cooperation on smart grid standards and technical issues.</p> <p>To increase understanding of how interoperability supports regulatory goals as well as the larger trade and investment impact of regulatory and policy actions.</p> <p>To share information and build capacity among regulators on best practices concerning Smart Grid investments and deployments.</p>	USA	(i)technology, (ii)energy efficiency, (iii)climate change	Supply; Trade; and Demand	The workshop will be held in Quebec, Canada in May 2012.
72.	SCSC	S CTI 38 11T – Multilateral Recognition Arrangement (MLA) Readiness Project in Greenhouse Gas Validation/Verification (GHG)	To build the capacity to enable APEC economies to participate in the proposed Pacific Accreditation Cooperation (PAC) MLA for GHG Validation/Verification	Japan	(i)technology, (ii)energy efficiency, (iii)climate change	Supply; Trade; and Demand	<p>Three training workshops are planned.</p> <p>1. A three-day workshop to train validation/verification bodies to be held in Indonesia, February 2012.</p> <p>2. A four-day workshop to train of Accreditation Bodies in GHG to be held in Taipei in March 2012.</p>

APEC Forum		Description of Initiative	Objectives	Proponents	Categories *	Work Program Component †	Status
							3. A four-day workshop to train peer evaluators to be held in Japan in May 2012.
73.	IEG	S CTI 34 11T (IEG) - Seminar on Successful Cases of Renewable and Clean Energy Investment in APEC	To Increase understanding and raise awareness of opportunities for investment within APEC economies in RCE through holding information exchange seminar on successful cases of RCE investment. To Share experiences, lessons and opinions on the role of cross-border investment in increasing utilization of RCE and dissemination of RCE technologies. To Share experiences on facilitation and promotion of cross-border RCE investment.	China	(ii)energy efficiency (iii)climate change	Demand	The seminar to be held in China in June 2012.

APEC EGS Projects Mapping

Record of Completed Projects up until 21 March 2012

APEC Forum	Description of Initiative	Objectives	Proponents	Categories ⁵	Work Program Component ^{**}	Status	
COMPLETED PROJECTS:							
74.	SOM	The First APEC Meeting of Ministers Responsible for Forestry	To assess existing efforts and explore further opportunities to enhance work on achieving the aspirational goal of increasing forest cover in the region by at least 20 million hectares of all types of forests by 2020, which was adopted by Leaders' Declaration in 2007, and also, to scale-up commitments to promote sustainable forest management and rehabilitation and address forest-related issues to contribute to the green growth agenda of APEC.	China	(iii) climate change	R&D, Supply	The meeting was held on September 5-8, 2011 in Beijing, China.
75.	CTI (Committee on Trade and Investment)	Study on Good Regulatory Practices for Goods and Services Necessary or Desirable for Climate Change Mitigation and Adaption	To assist Member Economies to adopt trade-facilitating regulatory measures for goods and services necessary or desirable for climate change mitigation and adaption	Singapore	(iii) climate change	Supply; Trade	PSU completed the study in October 2009 and delivered it to CTI for consideration. <i>[Member Economies are currently discussion on</i>

⁵ Some broad categories of EGS, which the project could help increase the use of, include: (i) environmentally friendly technology goods and services (technology); (ii) energy efficiency goods and services (energy efficiency); (iii) environmental goods and services necessary or desirable for climate change mitigation and adaption (climate change); (iv) clean air; (v) clean water and (vi) others (eg renewable energy, waster water management, environmental monitoring, analysis and assessment equipment).

^{**} The EGS Work Programme framework endorsed by Ministers in 2008 uses the basic value-chain of EGS as a framework to holistically address all aspects of EGS. Four components set out by the framework are: R&D, Supply, Trade and Demand.

APEC Forum		Description of Initiative	Objectives	Proponents	Categories ^s	Work Program Component ^{**}	Status
							<i>the next steps regarding the approach to continue the work on GRP for climate-friendly goods and services]</i>
76.	CTI	Survey on the current status of applying trade related environmental standards (TREM)s)	To help members, especially developing members, to build capacity to implement trade-related environmental standards by best practices and experience sharing.	Viet Nam	(vi) others	Supply; Trade	Questionnaire circulated and seminar was held in Viet Nam in December 2009 (CTI29/2009T).
77.	CTI	Seminar on Dissemination of Environmental Technologies	Aims to increase, through knowledge, information and experience sharing, the understanding and awareness on issues related to the dissemination of environmental technologies; share best practices in promoting the application and dissemination of environmental technologies through various vehicles including trade and investment; and advance EGS Work Programme and explore possible next steps APEC can take in this area	China	(i)technology	Supply; Trade; Demand	Seminar held on 11 May at Big Sky, Montana
78.	CTI	Trade Policy Dialogue on Environmental Goods Non-Tariff Measures,	To have an informal discussion among APEC officials, private sector representatives, and other experts aimed developing a better understanding of NTMs impacting environmental goods (EGs) trade, and discussing options for how APEC might address EGs NTMs in its work.	United States		Trade	Seminar held on 12 May, Big Sky, Montana.
79.	CTI / MAG / GOS	Environmental Goods and Services Case Studies	To identify the key EGS policies, market drivers, and challenges associated with	United States, New	(i)technology, (ii)energy	R&D; Supply; Trade;	Case studies on Malaysia, and Mexico's EGS

APEC Forum		Description of Initiative	Objectives	Proponents	Categories [§]	Work Program Component ^{**}	Status
			promoting trade and investment in EGS in the selected APEC economies' markets, provide a more comprehensive picture of the economies domestic marketplaces, and suggest ideas on how to achieve greater "green growth. Final case studies will be made available on EGS Information Exchange (EGSIE).	Zealand, Australia	efficiency, (iii)climate change, (iv)clean air, (v)clean water (vi) others	Demand	markets completed and presented to CTI3 2011 in San Francisco. Case studies on Viet Nam and Chile were completed and comprehensive presentation on all four case studies provided in Moscow, to MAT1 2012.
80.	MAG	Proposed Workshop on Managing Trade in Remanufactured Goods at the Border	To share best practices regarding treatment of remanufactured products for customs, safety, and import policy purposes, and discuss issues associated with ensuring safety of these goods.	United States, Canada, Japan and Singapore	(i)technology, (ii) energy efficiency	Trade	Workshop was held in at SOM3 in San Francisco in September 2011. Completion report has been submitted. (CTI19/2011T)
81.	MAG (Market Access Group)	Workshop on Trade and Environment	To facilitate the sharing of ideas, information and experiences between participants to provide APEC policy-makers with tools to develop effective environmental regulations and to develop policies and regulations that do not distort trade in environmental technologies, goods and services.	Australia, Indonesia	(i)technology, (iii)climate change	Trade; Demand	Held on 25-26 May 2009, Jakarta, Indonesia (self-funded)
82.	MAG	Workshop on Environmental Goods and Services	To enhance understanding of i) role and relevance of developing economies to disseminating environmental goods; ii) role and relevance of technologies to achieving enhanced energy conservation and efficiency; and iii) ideas of establishment of a common platform to eliminate/moderate existing obstacles.	Australia, Japan, New Zealand, Singapore	(i)Technology (iii)energy efficiency, (iii) climate change	Supply; Trade; Demand	Held on 28 July 2009, Singapore (CTI/32/2009T)

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83.	MAG	Works on Remanufacturing	To raise awareness about business practice of remanufacturing and to enhance understanding of APEC Economies' respective remanufacturing capabilities and regimes impacting trade in remanufactured goods.	US	(vi) others	Trade	Workshop held on 21 February 2009, Singapore. Questionnaire submitted by US at MAG3, 2009, and answers circulated by some economies at MAG1, 2010. Survey result reported at MAG2.
84.	GOS (Group on Services)	Survey on APEC Trade Liberalisation in Environmental Services	To share information of trade liberalization trends in environmental services for APEC economies. In the long run, it could also be regarded as a positive response to meeting the challenges of the climate change.	China; New Zealand; Indonesia; Australia; United States	(i)technology, (ii)energy efficiency, (iii)climate change, (iv)clean air, (v)clean water (vi) others	Trade;	Report finalized. (CTI31/2008T)
85.	GOS (New)	Workshop for Capacity Building on the Role of Cross-Border Services Trade in New Growth Strategies	To increase knowledge and understanding of how the services industry and cross-border services trade can contribute to new growth strategies, particularly "inclusive growth" and "sustainable growth (green growth)".	Korea; US; Japan; Chinese Taipei	(vi) others	Trade	Workshop held on 16-17 September 2010 in Sendai, Japan. (CTI04/2010T)
86.	GOS / Tourism Working Group (TWG)	Ecotourism Conference	To increase awareness of the importance of ecotourism development; collect member economies' success stories in developing quality ecotourism; and, clarify the factors which would contribute to the development of quality ecotourism experiences in the APEC region.	Japan; Australia; Malaysia; Indonesia; Peru; Viet Nam; Korea; Philippines; Chile	(vi) others	Supply, Demand.	Conference held on 16 September 2010 in Sendai, Japan. (CTI19/2010T)

APEC Forum		Description of Initiative	Objectives	Proponents	Categories ^s	Work Program Component ^{**}	Status
87.	GOS	Trade Policy Dialogue on Environmental Services		GOS Convenor		Supply; Trade; Demand	Held on 9 May, Big Sky, Montana
88.	SCSC (Sub-Committee on Standards and Conformance)/ EWG, EGEE&C (EWG/Expert Group on Energy Efficiency and Conservation)	Conference on Green Harmonization	The purpose of this conference is to share the importance of prevalence and harmonization on energy-efficiency standards leading to achieving the OAA of “Align their domestic standards with international standards” and “promote good regulatory practice for the preparation, adoption and application of technical regulations in the APEC region”. In order to achieve a more effective involvement of the business community in SCSC’s activities, the conference consists of two parts, a communication to government sectors and business sectors.	Japan; Peru; Singapore; China; US; Viet Nam; Korea; NZ	(ii) energy efficiency (iii) climate change (iv) others	Supply ;trade; demand	Held in Sendai, in 18 September 2010. (CTI44/2009T).
89.	EWG, Expert Group on Energy Efficiency and Conservation (EGEE&C)	Engagement by APEC Economies in International ‘Smart Appliance’ Standards for Air Conditioners and Other Appliances.	The project is aimed at information sharing to enable active involvement of APEC stakeholders with the International Electrotechnical Commission (IEC) and International Standards Organisation (ISO) technical work on development of international standards for ‘smart’ appliances. The project is consistent with the ongoing APEC Smart Grid Initiative, and supports the APEC Leader’s Growth Strategy by working towards enhancing energy security and promoting energy-efficiency and low-carbon policies through smart grid and demand management technologies	Australia	Energy Efficiency, Energy Security, low-carbon Climate Change	R&D Harmonizing standards on energy	The workshop was held in Seoul, Korea, 10-11 November 2011, attended by 30 delegates. Completion Report submitted. (EWG 01/2011T)
90.	EWG	APEC Low Carbon Town	To provide opportunities for knowledge	China,	Low Carbon,	R&D,	The workshop was held in

APEC Forum		Description of Initiative	Objectives	Proponents	Categories ^s	Work Program Component ^{**}	Status
		(LCMT) Forum	sharing and capacity building for all APEC economies on LCMT development in terms of policy making, city planning, energy layout, finance and economic incentives for low carbon development, for example, carbon trade, etc.	Japan, Malaysia	Energy Efficiency	Information sharing	Tianjin, China on 21-23 June 2011, attended by 144 delegates, mainly from China. Completion Report has been already submitted. (EWG 06/2011A)
91.	EWG	APEC Workshop on Energy and Green Transport Benefits of Electric Vehicles	<p>To provide considerable supports to power and transport planners in developed and developing economies to put green transport strategies and policies in greater use of electric vehicle in place.</p> <p>To build understanding of how the green benefits brought from the use of electric vehicle, and to encourage wider application as well as trade and investment in electric vehicles, energy storage facilities and the related charging infrastructures to facilitate the transfer of fossil fuelled to electric driven vehicles.</p>	China and Hong Kong, China	Energy Efficiency, Climate Change, Green Transport	Promote trade and investment in green vehicles	The workshop was held in Hong Kong, China on 24-26 October 2011, attended by 31 delegates. Completion Report submitted. (EWG 05/2011A)
92.	EWG	APEC Workshop on Energy and Green Transport Benefits of Electric Vehicles	<p>To provide considerable supports to power and transport planners in developed and developing economies to put green transport strategies and policies in greater use of electric vehicle in place.</p> <p>To build understanding of how the green benefits brought from the use of electric vehicle, and to encourage wider application as well as trade and investment in electric vehicles, energy storage facilities and the related charging infrastructures to facilitate the transfer of</p>	China and Hong Kong, China	Energy Efficiency, Climate Change, Green Transport	Promote trade and investment in green vehicles	The workshop was held in Hong Kong, China on 24-26 October 2011, attended by 31 delegates. (EWG 05/2011A)

APEC Forum		Description of Initiative	Objectives	Proponents	Categories ^s	Work Program Component ^{**}	Status
			fossil fuelled to electric driven vehicles.				
93.	EWG	APEC Workshop on Energy and Green Transport Benefits of Electric Vehicles	<p>To provide considerable supports to power and transport planners in developed and developing economies to put green transport strategies and policies in greater use of electric vehicle in place.</p> <p>To build understanding of how the green benefits brought from the use of electric vehicle, and to encourage wider application as well as trade and investment in electric vehicles, energy storage facilities and the related charging infrastructures to facilitate the transfer of fossil fuelled to electric driven vehicles.</p>	China and Hong Kong, China	Energy Efficiency, Climate Change, Green Transport	Promote trade and investment in green vehicles	The workshop was held in Hong Kong, China on 24-26 October 2011, attended by 31 delegates. (EWG 05/2011A)
94.	Energy Working Group	Workshop on Low Emission Development Strategies (LEDS) for APEC Economies with a Focus on Energy and Transport	The workshop will be held on the margins of the joint Energy and Transport Ministerial Conference in September 2011, and will highlight linkages between APEC green growth and energy goals and Low Emission Development Strategies (LEDS). LEDS is a strategic framework that helps economies articulate concrete actions, policies, programs and implementation plans to meet development objectives, improve environmental management, and boost economic growth. It would thus include officials from APEC member economies' energy and transport ministries, as well as interested private firms and experts, who plan to participate in the Conference.	United States	Green Growth, energy efficiency, low emission development	Info sharing	The workshop was held on 11-12 of September 2011 in San Francisco, U.S. Completion report submitted (EWG 13/2011A).
95.	EWG,	Cool Roofs in APEC	To create capacity building to implement	United	Energy	R&D	Completion Report

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	EGEE&C	Economies: Review of Experience, Best Practices and Potential Benefits	cool roof technologies and policies in developing APEC member economies by reviewing experience in the region with cool rooftops in residential and commercial buildings, identifying and disseminating information on best practices, and summarizing the associated benefits in terms of reduced energy use and emissions.	States	efficiency Improve of technology to GHG savings Air Quality		submitted. (EWG11/ <u>2009A</u>).
96.	EWG, Expert Group on New and Renewable Energy Technologies EGNRET	Addressing Challenges of AMI Deployment in APEC	Investigate and confer the development strategies and current status of AMI in all APEC economies. Identify effective AMI polices and best practices. Offer guidelines to economies and industry for AMI deployment. Provide recommendations for power network upgrading and Smart Grid integration. Increase the awareness and effectiveness of AMI.	Chinese Taipei	Smart grid, energy efficiency	R&D, best practices	The workshop was held in Chinese Taipei, on 24-25 August 2011. Completion Report submitted. (EWG 07/2011A)
97.	EWG, EGEE&C	Cool Roofs in APEC Economies: Review of Experience, Best Practices and Potential Benefits	To create capacity building to implement cool roof technologies and policies in developing APEC member economies by reviewing experience in the region with cool rooftops in residential and commercial buildings, identifying and disseminating information on best practices, and summarizing the associated benefits in terms of reduced energy use	United States	Energy efficiency Improve of technology to GHG savings Air Quality	R&D	Completion Report submitted. (EWG11/ <u>2009A</u>).

APEC Forum		Description of Initiative	Objectives	Proponents	Categories ^s	Work Program Component ^{**}	Status
			and emissions.				
98.	Energy Working Group (APEC Expert Group on Energy Efficiency and Conservation)	SOLLIA – Street and Outdoor LED Lighting Initiative - Asia	Share best practices for the installation of highly-efficient light-emitting diodes (LEDs) for street lighting, in order to facilitate their wider adoption in APEC economies and benefit from associated energy savings.	United States	Energy Efficiency, Climate Change mitigation	Cost Effective installation of Street lighting	Completion Report submitted. (EWG 08/2010A)
99.	Energy Working Group	APEC Low-carbon Model Town (LCMT) Project – Phase 1	The Project, seeks to promote low-carbon technologies in city planning in order to manage rapidly growing energy consumption and greenhouse gas emissions in urban areas of the APEC region.	Japan, Canada, China, Korea, Chinese Taipei, USA	Climate Change mitigation,	R& D, low-carbon urban design.	Completion Report submitted. (EWG 09/2010A)
100.	EWG EGEE&C	Development and Harmonisation of Standards Indoor Light Emitting Diodes (LEDs)	This project's primary objective is to promote the involvement of APEC economies in the development of international standards for light emitting diodes (LEDs) in order to encourage harmonisation of LED standards and reduce barriers to trade created by the emergence of a varying number of standards, therefore APEC is the most appropriate institution to fund it.	Australia	High Efficiency Lightning Technology Standardization	Reduce Trade barriers	Completion Report submitted. (EWG 10/2010T)
101.	EWG (Energy Working Group)	APEC Cooperative Energy Efficiency Design for Sustainability (CEEDS) Phase 1	To promote "high-performance" energy efficiency policy measures in developing economies in the APEC region. The focus will be on how to apply such measures to the unique conditions of each economy.	Japan	(ii)energy efficiency (iii)climate change	Supply; Trade; Demand	As CEEDS is a multi-year project, CEEDS will be expanded to cover different sets of measures in different sectors in the coming several years. Two workshops were held one in October/2009 in Chinese Taipei and one in

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							March 2010 in Japan, with delegates from Chile, China, Malaysia, the Philippines, Thailand and Viet Nam participated. (EWG14/2009A). Project completed its Phase 1.
102.	EWG, EGEE&C (EWG/Expert Group on Energy Efficiency and Conservation)	Energy and Water Efficiency in Water Supply: Practical Training on Proven Approaches	To inform water utilities and municipalities in APEC economies of the benefits of launching efficiency programs in their water supply and/or wastewater treatment facilities, and to build capacity in developing APEC economies, through training and the provision of guidance materials and tools, to carry out energy and water efficiency programs.	United States	Energy Efficiency Reduced energy in water supply and wastewater treatment	R&D Supply Demand	A Workshop/training course was held in Viet Nam in 9-10 March 2010. The results have been reported. (EWG12/2009A). Project completed.
103.	EWG (Energy Working Group) (New)	APEC Cooperative Energy Efficiency Design for Sustainability (CEEDS) Phase 2	Specifically, the project will assist developing economies who wish to design and implement measures for achieving energy efficiency improvements in a specified sector. The focus will continue on how to apply such measures to the unique conditions of each economy.	Japan	(ii)energy efficiency (iii)climate change	Supply; Trade; Demand	CEEDS Phase 2 project examines "Building Codes and Labeling" programs with the same methodology as Phase 1. A set of two workshops were held, with the first one hosted by Thailand (Bangkok) in September 2010 and the second by Hong Kong, China, in January 2011. As with PREE, the delegates at the workshop took the lead, with APERC researchers assisting by helping to

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							organize, moderate, and report the outcomes. (EWG 03/2010A). Phase 3 has been approved with number EWG 03/2011A, in BMC Session 2/2011.
104.	EWG EGEE&C	Mapping exercise of energy standards, labelling, and testing and measurement procedures in each APEC economy and their alignment with international standards	To facilitate trade in EGS by reducing non tariff barriers that currently exist for energy efficient products, and to reduce unnecessary compliance costs, save energy and mitigate the impact of climate change by reducing barriers to trade and investment in EGS, specifically energy efficient products.	Japan; Korea; NZ; Singapore; Chinese Taipei; US	i)technology ii)energy efficiency iii)climate change	Supply Trade Demand	Preliminary report presented at the SCSC Conference on Green Harmonization on September 18 th in Sendai, Japan. Survey to be completed by November 2010. (EWG01/2010T). Project completed.
105.	EWG, Biofuel Task Force	Sustainable Biofuels Development Practices in APEC Economies	The project aims to specify conditions and practices that allow biofuels to be planted and harvested in a sustainable fashion. The goal is to identify means for ensuring that biofuels development is cost-effective, does not compromise the security of food supplies or deplete available water resources, and does not result in a net increase of carbon dioxide emissions.	United States	Biofuels Carbon dioxide emissions reductions Climate Change	R&D	Project consultant presented a detailed methodology to the Sixth Meeting of the Biofuels Task Force in Malaysia in April 2010. This includes a detailed taxonomy of the types of sustainable development practices to be described and catalogued. The consultant has contacted experts in most APEC economies in order to find suitable examples. Report being drafted. (EWG19/2009). Project

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							Completed.
106.	EWG, EGEE&C	Reducing barriers to trade through development of a common protocol for measuring the seasonal energy efficiency (SEER) of air conditioners	The program helps reach the goal of global energy saving and reduce barriers in trade to stimulate the APEC economy of air-conditioning markets. This platform is applicable to both constant-speed air conditioners and inverter-type air conditioners, with a capacity under 14 kW.	Chinese Taipei	Energy Efficiency Climate Change	Trade Harmonizing standards on energy	Report completed. (EWG01/2009T)
107.	EWG, EGEE&C	Energy-Saving Windows: Survey of Policies and Programs to Promote Advanced Window and Glazing Technologies in APEC Economies	To compile information on recent efforts to reduce building energy use through advanced windows and glazing technologies in APEC economies. By assessing the current market status of energy-saving windows and barriers to their increased use, the project will also help guide decisions on new policies or programs to promote them.	US	(i)technology (ii)energy efficiency (iii)climate change	Supply; Demand; Trade	Completed.
108.	EWG, EGEE&C	APEC Energy Standards Information System (ESIS)	Aims to provide up-to-date information about appliance and equipment energy standards and regulations and to provide "Communities of Practice" for experts and officials to discuss efforts to harmonize and rationalize the testing, labelling, and minimum energy standards for specific appliances and equipment; and others.	New Zealand	(i)technology (ii)energy efficiency (iii)climate change	Supply; Trade; Demand	ESIS Website Ongoing at: http://www.apec-esis.org
109.	EWG, EGEE&C	Using Smart Grids to Enhance the Use of Energy Efficiency and Renewable Energy Technologies.	To understand how smart grid technologies and practices have been used to enable new products and services, optimize the use of power grids, allow greater use of renewable energy options,	US	(i)technology (ii)energy efficiency (iii)climate change	Demand	The project would fund a report on the status and potential, within APEC economies, of smart grid technologies to enhance

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			and encourage greater demand-side efficiency response in APEC economies.				the use of renewable energy and energy efficient buildings, appliances and equipment. Self-funded project. A detailed survey has been developed and distributed to APEC member economies. The survey responses are currently being correlated for utilization in the project report.
110.	ISTWG	APEC International Biogas Resources Development and Utilization Science and Technology Cooperation Forum	Forum will be hold for communication and discussion on biogas technology and products, to provide stat-of-the-art biogas information and its tendency, to push forward biogas technology and products research, popularization and application, to enhance the APEC member economies cooperation in depth and breadth, to expand biogas-related technique and equipment application	China	Energy Efficiency. Energy collecting data	Renewable energy, Biogas	The workshop was held in Kunming on 15-17 August 2011. Completion Report submitted. (IST 04/2010)
111.	ISTWG	APEC Symposium on Low-Carbon Technology & Industrial Cooperation	The project will actually contribute to the development of “low-carbon economy” in China and APEC region as it lays emphasis on promoting industrial technical cooperation among APEC members under the global situation of developing low-carbon economy, mitigating climate change and maintaining a green sustainable economic and social development.	China	Energy Efficiency, Climate Change mitigation	Low Carbon Technology, industrial Cooperation	Completion Report submitted (IST 05/2010A)

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112.	ISTWG	Harnessing and Using Climate Information for Decision-making in Agriculture, Water Resource Management and Energy Efficiency	<p>To impart lessons and best practices in climate prediction and applications through capacity building workshops, tutorial sessions, and transfer of knowledge and technologies;</p> <p>To disseminate and transfer of the latest research findings and technologies in climate prediction science and experiences on how climate information are used in agriculture, water resources and energy sectors; and</p> <p>To strengthen and enlarge the network of women and men climate scientists, academics, decision-makers, private sector and other stakeholders in the APEC region that would facilitate uptake and use of climate information in application areas and support North-South and South-South cooperation in prediction and application.</p>	Republic of Korea	Climate Change, Climate Information	Info-sharing, R&D	The workshop was held in Honolulu, Hawaii, U.S. on 17-20 October 2011. Completion Report submitted. (IST 02 2011A)
113.	ISTWG	Apec Co-Incubation Network	<p>1) To integrate the technology innovation and economy development, to push the technology and market collaboration among companies and incubators in APEC member economies, by generating an internal network with policies and resources equally shared among incubators and companies;</p> <p>2) To provide soft landing services, improve the business environment to ease the way of doing business for small technology companies, by providing networked</p>	China	Technology innovation, incubators, human resources, small companies	Info-sharing, market collaboration, building networks, business environment	The Fifth APEC Incubation Forum on building a Co-incubation Network was held in Xi'an, China, on September 6-8, 2011. Following the previous four APEC Incubation Forums in 2000, 2002, 2005 and 2008. Completion Report submitted. (IST 04 2011)

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			<p>incubation services;</p> <p>3) To promote human resources development by encouraging entrepreneurship and creating new jobs.</p> <p>To sum up, the ultimate outcome is to form a system that will further promote the innovation, regional economic integration and entrepreneurship, based on a view of technology-based small companies</p>				
114.	ISTWG (Industrial Science and Technology Working Group)	Building adaptive capability to extreme climate events through the networking among APEC Economies and relevant organizations/ projects	Enhanced capacity of Member Economies to manage climate-related disasters through training and technology transfer in climate information generation and application	Korea	(i) technology, (ii) energy efficiency (iii) climate change, (iv) others	R&D; Supply; Demand	Symposium, forum for disaster risk management, and tutorial session was held at APEC Climate Center, Busan on 20-24 June 2010. (IST11/2009A)
115.	ISTWG	APEC Climate Center for Climate Information Services to Society	The aim is to provide optimized climate prediction information to 21 APEC members, including those members which have no capability to produce the high-cost climate information. APCC helps member economies to reduce negative economic impacts, protect lives and properties, and bring economic prosperities. This project will also build on the capacities of Meteorological Services in member economies. To further facilitate the data exchange and regional cooperation for the development of early warning system of high impact climate,	Korea	Technology, Climate Change	R&D; Information supply	Workshop was held in Singapore on 12-15 July 2009. Completion report received. (IST01/2009)

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			this project will organize the APCC Scientific Symposium in October 2009.				
116.	ISTWG	Research on the Futures of Low Carbon Society: Climate Change and Strategies for Economies in APEC Beyond 2050	To foresight the future society where low carbon economy and lifestyle becomes the principal driver governing trade and development. The expected outcome includes short, middle, and long term strategies for the region in technological development in responding to the need of the future society envisioned.	Thailand	(i)technology (iii)climate change	R&D; Supply; Trade; Demand	A Scenario Workshop was held on 2-4 November 2009 in Phuket, Thailand. It was the fourth of a five-step process that began with a scoping meeting in Hong Kong, China in August 2008, followed by a international working group meeting in Bangkok in October 2008 and a real time Delphi survey from June to August 2009.
117.	ISTWG	Utilization and protection of water resources	To conduct research and analysis of river basin water resources; to open a website for utilization and protection of water resources; and to build up an expert research group	China	(i)technology (v) water	R&D; Supply	Symposium on Utilization and Protection of Water Resources was held in Suzhou, China from September 22 nd to 23 rd 2009. Further exploration will be conducted under the title of "Comparative Research on Wastewater Treatment Technologies". Three aspects of the wastewater treatment technologies are industrial wastewater, agricultural wastewater and sewage water.

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							Monitoring report received. (IST01/2009A). Project Completed.
118.	ISTWG	APEC Workshop on Building Capacity on Bio-energy and Conserving the Natural Ecosystem through Academia-Industry Network	The workshop aims to build capacity of developing members to benefit primarily developing members in capitalizing on bio-energy resources; to understand the status of bio-energy research and development in APEC member economies; to identify the efficient network between academia and industry to sustain such research; and to find ways of developing biomass resources as well as preserving the natural ecosystem.	Korea	Technology, Climate change	R&D; Energy	The Workshop was held on Nov 12-14 in Taipei and its preparation is under way. (IST09/2009A). Project completed.
119.	IEG (Investment Experts' Group)	Core Elements Project (Phase I)	Project aims to examine core elements and the range of approaches to negotiating investment agreements amongst APEC member economies and non-APEC economies	New Zealand			Completed in 2009. A report " <u>Core elements of IIAs: a cross-regional comparative study</u> " was published in 2010. "Environment" was identified as one of the core elements in the surveyed international investment agreements (IIAs). (CTI 34/2008T)
120.	IEG	Capacity Building for Sharing Success Factors of Improvement of Investment Environment – Phase 3	To improve the abilities and service of government officials and staff of investment promotion agencies to match current investment trend and enhance more investment flow within/through	Japan	Tbc (currently "environmental sector")	Trade, Supply?	Seminar held in the SOM3 margin in Sendai, Japan. (CTI 03/2010T)

APEC Forum		Description of Initiative	Objectives	Proponents	Categories [§]	Work Program Component ^{**}	Status
			<p>APEC region;</p> <p>To introduce successful experiences of APEC economies that have increased foreign investment through specific efforts in environmental sector in order to implement liberalization, facilitation, and promotion of investment in the APEC Region;</p> <p>To contribute to “Sustainable Growth” as well as other pillars of APEC 2010’s Growth Strategy.</p>				
121.	GOS	Information Exchange of APEC Environmental Services	To exchange information on both liberalization and technology aspects of environmental services (ES) within APEC economies.	China, Japan, Malaysia, United States	(i)technology, (ii)energy efficiency, (iii)climate change, (iv)clean air, (v)clean water (vi) others	R&D; Supply; Trade; Demand	Symposium held in Beijing, China in November 2010. (CTI25/2010T)
122.	SCSC	Solar (PV) Standards and Conformance Measures Survey and Workshop	<p>Increase transparency of various economies’ standards and conformance regimes for solar photovoltaic (PV) technologies to enable standards experts to gauge the level of harmonization of PV standards and conformance methodologies within APEC and determine areas for increased cooperation and harmonization</p> <p>Expand information sharing on the development and use of renewable energy sources to mitigate the</p>	United States	(ii)energy efficiency (iii)climate change	Supply; Trade; Demand	Two workshops were held in SOM 3 and in October in CT 2011. Completion report has been submitted.

APEC Forum		Description of Initiative	Objectives	Proponents	Categories [§]	Work Program Component ^{**}	Status
			environmental impact of energy use –in order to reduce discrepancies among APEC economies regarding the adoption and use of solar products; and Avoid creating unnecessary obstacles to trade in PV products stemming from PV standards and conformity assessment procedures.				
123.	SCSC	Conference on Implementation of Energy Management Standardization	Objectives of this proposal are: Highlight the value that energy management standards can have to businesses, consumers, and the environment. The proposed ISO specification will provide a practical approach to improving energy efficiencies, reducing costs and improvements in the environmental footprint of implementing organizations. Explain the role that energy management standards can play in assisting businesses in emerging and developing markets to become more competitive internationally.	United States (ii)energy efficiency	United States (ii)energy efficiency	United States (ii)energy efficiency	Conference was held in SOM 3, 2011. Completion report has been submitted.
124.	SCSC	Sustainability in Building Construction (Commercial Buildings) — Efficiency and Conservation	Objectives are to identify member Economies' current practices, policies and regulations or those being developed or contemplated, with a view to use this early information exchange as a way to potentially reduce or minimize technical barriers to trade among APEC Members and to better understand Member priorities for understanding the various aspects of green building standardization.	United States	(ii)energy efficiency	others	The first workshop was held in Washington D.C. on 3-4 March 2011. Another workshop was held in Singapore on 11-13 September 2011. Completion report has been submitted. (CTI-SCSC 33/2010T)
125.	SCSC	6 th Conference on Good Regulatory Practice	To share experiences among APEC members, incl: Private Business and	United States	(vi) others	R&D; Supply; Trade;	Conference was held in SOM 1, 2011 in

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			International organizations on advances to date in improving regulatory practices, with a goal of identifying avenues to promote further improvements in the development and adoption of new regulations among APEC Members. Also to ensure regulations achieve desired public policy outcomes without creating unnecessary obstacles to trade; and To update and revise key APEC technical documents/ resources on GRP which are valuable reference tools for regulators in the Asia-Pacific, and globally.			Demand	Washington D.C.
126.	TELWG (Telecommunications and Information Working Group)	Smart ICT Application Initiative: Green ICT Seminar – ICT application in the field of environment	To share best practices of ICT application in some specific fields and to find how economies and businesses address the challenges to facilitate ICT application in APEC region; to identify policy challenges in respect of investment, technology and regulations on Green ICT.	Japan	(i)Technology, (ii) Energy efficiency (iii) Climate change (tbc)	R&D Supply Trade, Demand (tbc)	Held on 3 August 2010 in Brunei. (2010/TEL42/DSG/009)
127.	TWG	Workshop on Identification of best practices in the Use of clean technologies as a source of energy in hostelry	To identify and disseminate best practice in the use of clean technologies as the main source of energy in hostelry businesses (e.g. hostels, small hotels, bed and breakfast, pensions). The objective is to promote the implementation of clean technologies to strengthen sustainability in the tourism sector.	Peru	(i)Technology, (ii) Energy efficiency	R&D Supply Trade, Demand (tbc)	Completed in 2009. (TWG02/2009A)
128.	TPTWG (Transportation Working Group) (joint with TWG)	Study of international visitor flows and greenhouse gas emissions for a template to examine the impact on APEC	To develop a template to be utilised by APEC economies to inform the development of future transport and tourism policies, negotiating positions in	Australia	Energy efficiency Reduced emissions	R&D Supply Trade Demand	Completed in 2009. Template is now available on the TPT-WG website (http://www.apec-

APEC Forum		Description of Initiative	Objectives	Proponents	Categories ^s	Work Program Component ^{**}	Status
		economies of future market based measures applying to international transport	international fora, and economic development and planning activities.				tptwg.org.cn/ (TPT 02/2009)
129.	TPTWG (Transportation Working Group)	Sharing Best-Practice in Reducing Greenhouse Gas Emissions at ports	To improve the efficiency of cargo transportation systems and develop environmentally-friendly cargo transportation systems by referring best practices shared through the project.	Japan	Energy efficiency Reduced emissions	R&D Supply Trade	Completed in 2009.
130.	TPTWG Aviation Emissions Task Force (AETF)	Survey of Aviation Emissions Management Measures	To identify actions that could remove obstacles to implementing aviation emissions management measures. Four potential actions identified as follows: 1. Collaboration in improving air traffic management practices in the region; 2. Measuring and reporting aviation emissions; 3. APEC recognition of specific voluntary carbon offset schemes; 4. Greater implementation of aircraft operational efficiencies.	Australia New Zealand	Technology Energy efficiency Reduced emissions	R&D Supply Trade Demand	Completed. Survey was presented at the TPTWG33 meeting in Japan in October 2010.
131.	SMEWG	International Workshop and Training 'The Role of Business Incubators in Developing Green Technology-based SMEs'	To develop recommendations in order to accelerate the development of green technology-based SMEs in the APEC region through strategy development and capacity building of business incubators.	Indonesia	(i) technology; (vi) others.		Workshop and Training were held on 27-29 September 2011, in Yogyakarta, Indonesia.
132.	MTF (Mining Task Force)	Sustainable Development of Mining Sector in APEC	To identify trends and drivers for mineral commodities markets, which facilitate and impede the sustainable development of mining sector and to compile data and recommendations to ensure sustainable	Russia	Climate change Technology Other	R&D Supply Trade Demand	Completed in 2009. APEC Conference on Sustainable Development of Mining was held on 23-24 July 2009 in Singapore. Draft APEC Report to

APEC Forum		Description of Initiative	Objectives	Proponents	Categories [§]	Work Program Component ^{**}	Status
			development of mining in APEC region.				UNCSO on Sustainable Development of Mining Sector in APEC was developed by MTF members and endorsed by SCE for forwarding to United Nations Commission on Sustainable Development (UNCSO) to compliment its review of sustainable development in mining. Draft Report is to be approved by SOM3 2010 and forwarded to UNCSO by the end of 2010. (MTF 01/2009)
133.	MTF	Balancing competing demands of mining, community and environment for achieve sustainable development in mining sector.	To develop reference database on policies, regulations, standards, and technical guidelines related to mine rehabilitation, reclamation, and mine closure among APEC economies; capacity building for APEC developing member economies on the mine rehabilitation and reclamation and best practices for domestic policies related to mining industry with deeper consideration of environmental and social issues.	Korea	Climate change Technology Other	R&D Supply Demand	Completed. Workshop was held on 1-2 September 2010 in Seoul, Korea. (MTF 04/2009)
134.	FMP (Finance Ministers Process)	Green Finance for Green Growth	To analyze how the financial sector can facilitate green growth, considering the role of banks, capital markets, other market-based instruments, and subsidies	Korea Japan China	(i)technology, (ii)energy efficiency, (iii)climate	R&D Supply Trade Demand	Key Recommendations from the APEC Experts Panel on Green Finance for Green Growth were

APEC Forum		Description of Initiative	Objectives	Proponents	Categories ^s	Work Program Component ^{**}	Status
			and tax policies.		change, (iv) clean air, (v) clean water (vi) others		made to the APEC Finance Ministers Meeting in Hawaii in November 2011. (FMP03/2020)
135.	ATC	APEC-ATCWG Biofuels Network Annual Symposium and Biotrade/Technical Training Workshop	Aims to strengthen and expand the established APEC biofuels network by setting up a biofuels symposium on an annual basis to stress the importance of the second and third generation biofuels research development. Would also serve to provide an update on the progress on technical, economic, and environmental information and experiences regarding the bioconversion of agricultural and agro-industrial wastes to biofuels among APEC member economies by concentrating on biofuels regulatory cooperation.	Thailand	(i) Technology (ii) energy efficiency	R&D	Completed in May 2011. (ATC08/2010). The report was published in August 2011 and is available on APEC Website.
136.	OFWG	FWG 01/2011S - "Application of Satellite Data for Sustainable Fishery Support in APEC"	The project included a workshop that provided a forum for various stakeholders involved in Fishery and Marine Resource Conservation, as well as Remote Sensing experts, to discuss and review use of satellite imagery for sustainable fishery support and marine biodiversity protection.	Russia	(i) technology	R&D	Complete. The workshop "Application of Satellite Data for Sustainable Fishery Support in APEC" was held Indonesia on June 10, 2011. The final report has been endorsed by OFWG and will be issued as an APEC Publication.