APEC ENERGY WORKING GROUP

EWG31, Singapore, 17-18 May 2006

AGENDA ITEM 7

ATTACHMENT A

EWG Project Proposals for Funding: 2007

EWG01 - 2007 (Operational Account)

Environmental Monitoring for Coal-Fired Power Plants in Developing Asian APEC Economies

1 – Economy/Expert Group

Energy Working Group / Expert Group on Clean Fossil Energy

Co-sponsoring Economies – Japan, China, United States

TILF **Operational** Self-funded APEC Support Fund

2) Contact Details of Project Proponent

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3) Start Date: 2007 **Completion Date:** 2008

4) Objective:

The Expert Group on Clean Fossil Energy is currently undertaking a project entitled "How Can Environmental Regulations Promote Clean Coal Technology Adoption in APEC Developing Economies". Its objectives are to gather, synthesize, and assess experience to date in APEC economies with regard to the interaction of environmental regulations and clean coal technology development; and to make recommendations on the features of the regulatory environment needed to favor projects using CCTs in APEC developing economies where energy needs are expanding rapidly and coal is the fuel of choice.

An important aspect of furthering environmental goals in regard to power generation is adequate monitoring. This is needed both to ensure that power plants are performing as expected, and to confirm that they are in compliance with the applicable environmental regulations. For new power plants, this is a question of ensuring that the design includes state-of-the art control and monitoring technologies, and in many APEC economies, this is required by regulations. However, existing coal-fired power plants, especially older ones in developing APEC economies, often have limited environmental monitoring capabilities, and their contribution to local and regional environmental impacts is difficult to measure. For economies that have instituted national, regional or local environmental quality standards, or targets for emissions of specific pollutants, it became necessary to formulate specific monitoring requirements and require individual plants, both new and existing, to implement these. Examples are requirements for coal quality and continuous emissions monitoring of air pollutants. Water pollutant monitoring and solid waste management are also significant.

The objectives of this project are to:

- gather, synthesize, and assess experience in Asian APEC economies with regard to environmental monitoring and reporting by individual, both existing and new, coal-fired power generating plants;

- promote regulatory requirements for coal quality and continuous emissions monitoring in APEC economies where such requirements do not already exist; and
- make recommendations regarding how monitoring should be applied and how it should interact with regulations for effective adoption of clean coal technologies.

Methodology:

The project will be initiated with an information exchange workshop held in an developing Asian APEC economy, and will be carried out with the assistance of a qualified consultant, who would have the task of defining the information needs in detail, assisting in organizing the workshop, analyzing the information available, and writing a final report with recommendations for action.

The initial workshop, which may be organized in conjunction with an annual APEC Clean Fossil Energy Seminar, will bring together government and power industry representatives from APEC economies aimed at defining, identifying, and exchanging information relevant to the objectives of the project. Among topics that the workshop will cover are:

- Availability of statistical information about coal quality on an individual plant basis.
- Availability of information on emission control equipment installed in individual plants.
- Availability of information on continuous emission monitoring equipment installed in individual plants.
- Nature, quality and degree of detail of available information on air and water pollutant emissions and solid waste management in individual Asian APEC economies.
- Current coal quality and environmental monitoring requirements in force in individual APEC economies, for new and existing coal-fired power plants.
- Experience in APEC economies of the interaction of environmental regulations and targets with monitoring requirements.

How does the project proposal align with EWG and APEC-wide priorities:

This project will strengthen regional energy security by preserving the coal option while creating essential conditions for improving environmental protection in the power generation sector.

The project responds to themes and priorities for cooperative activities spelled out in the Manila Declaration, specifically:

- *safeguard the quality of life through environmentally sound growth by promoting sound policies and practices, taking into account concerns about sustainable development.* The project will assess and make recommendations for regulations that promote the use of environmental monitoring for coal-fired power generation plants, both new and existing, aimed at ensuring that these plants meet their performance specifications and applicable environmental standards.

The proposed project is responsive to the objectives and strategic themes of the Energy Working Group's Future Directions Strategic Plan. Specific objectives that the project will advance are:

- Objective 2: Promotion of clean and efficient technologies, and the efficient use of energy to achieve both economic gains and environmental enhancement.
- Objective 3: Achieving environmental improvement of energy production, use and mineral extraction within our APEC community.

The project aligns well with the Plan's seven strategic themes:

- fostering a common understanding on regional energy issues;
- improving the analytical, technical, operational and policy capacity within member

economies;
- facilitating energy and minerals resource and infrastructure development in an environmentally and socially responsible manner;
- facilitating energy efficiency and conservation;
- facilitating improved reliability and stability in the provision of energy supply to meet demand;
- facilitating energy technology development, exchange, application and deployment; and
- facilitating a diverse and efficient supply mix.

Energy policy makers will benefit from improved information on the environmental performance of power generating plants. The project will help the power generating sector of member economies build capacity in environmental monitoring. The private sector will benefit through identification of investment opportunities in environmental monitoring technologies in Asian APEC economies.

The information and data to be gathered by the project and the ensuing analyses will be gender-neutral, i.e. they will have no gender implication and, therefore, cannot be sex-disaggregated. The project, by its nature, does not include any activities specific to women. Its management and execution, as well as the dissemination of the results, will involve women wherever possible. The degree of involvement of women in the project, in terms of responsibility and numbers, can be evaluated objectively at the project's conclusion.

7) Budget Estimate:

Total cost of proposed Project: $120,000
Amount sought from APEC Operational Account: $80,000

EWG02 – 2007 (Operational Account)

Operation of APEC Energy Database and Analysis

(Tick ✓ one where applicable) **[✓] Operational Account** **[ ] TILF Special Account**

Name of Committee/Working Group:

EWG/Expert Group on Energy Data and Analysis

Title of Project:

Operation of APEC Energy Database and Analysis

Proposing APEC Economy: Japan

Co-sponsoring APEC Economy (ies)

Australia; Brunei Darussalam; Canada; Hong Kong, China; Indonesia; Korea; Malaysia; New Zealand; Papua New Guinea; Philippines; Chinese Taipei; United States;

Project Overseer:

Name: Kenichi Matsui (M/~~F~~)
Title: Chair
Organization: Expert Group on Energy Data and Analysis

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Financial Information	**Total cost of proposal (US$):** 165,800 US$	**Amount being sought from APEC Central Fund** (US$): 20,000 US$

Type of Project: ☐ seminar/ symposium ☐ short-term training course ✓ survey or analysis and research ✓ database/website ☐ others *(Please specify)*

Project start date: January 2007	**Project end date**: 31 January 2008

Objective of Project:

The objectives of this project are to collect the energy data and relevant informations from member economies to operate the APEC Energy Database connected to the international network (the Internet) and to make Overview of APEC Energy Situation and to release the results including APEC Energy Statistics
As a part of the "Energy Security Initiative", Monthly Oil Data has been collected. Significant progress has been made over the past years. Improvement in data quality in terms of the timeliness, completeness and coverage will be further pursued.

Methodology:

Quarterly and annual energy data in conformity with a common reporting format is sent from member economies to the CA by e-mail. The CA arranges and processes these data to produce consistent regional statistics and to add to the APEC Energy Statistics. This energy database is open to all member economies and all individuals and organizations, public and private through the Internet. The APEC Secretariat publishes this statistics.

The EGEDA will produce and publish "APEC Energy Overview" endorsed by the EWG 19 coordinating with the APERC. Data collected by the CA will be used for this publication. Members of the EGEDA meet once a year to discuss about managing and reviewing the operation of the Energy Database and examine and advise on the research activities of APERC.

How does the project proposal align with EWG and APEC-wide priorities:

The maintenance and continued development of the APEC Energy Database responds to a number of principles enunciated by APEC Leaders and Energy Ministers, including: to foster a common understanding on regional issues (Osaka APEC Leaders Meeting, 1995) to enhance energy information and management programs to assist more rational energy decision making (Energy Policy Principle 10, First Meeting of APEC Energy Ministers, Sydney, August 1996); and to develop a common understanding on regional energy issues and future energy supply and demand trends (Fourth Meeting of Energy Ministers, San Diego, May 2000).

EWG03 – 2007 (Operational Account)

Lessons Learned in Upgrading and Refurbishing Older Coal-Fired Power Plants: A Best Practice Guide for APEC Developing Economies

Economy Expert Group

Energy Working Group / Expert Group on Clean Fossil Energy

Co-sponsoring Economies – USA, Australia, China

TILF **Operational** Self-funded APEC Support Fund

2) Contact Details of Project Proponent
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3) Start Date: 2007 **Completion Date:** 2008

4) Objective:

Approximately one-third of current generating capacity in APEC economies is presently coal fired with the percentage projected to increase with the addition of new units over the coming decade. While some of the older plants are candidates for retirement, and this is occurring, many will continue to generate up to and beyond a 40-year lifetime. There is an urgent need to optimize the performance of these older plants through cost-effective upgrading, refurbishment, and O&M improvements. Developing APEC economies often lack the knowledge or experience to determine which plants should be refurbished and to what extent. Decisions of this type are important for the continued reliable, cost-effective operation of the electricity infrastructure of many APEC economies. Moreover, refurbished power plants usually produce less carbon dioxide (CO_2) emissions through efficiency improvement, which adds to the economic reasons for upgrading existing plants.

An APEC project recently published[1] described upgrading and refurbishment options[2] to improve plant efficiency, performance and reliability, indicating how to assess and prioritize them for detailed evaluation, and provided a methodology for evaluating the impacts of the higher priority improvements, both economic and environmental, as an aid to decision-makers. A principal conclusion was the importance of appropriate financial and economic project analysis and planning tools.

The results of this project are considered sufficiently significant to warrant a follow-up of a more specific nature, drawing from project experience in APEC member economies. The

[1] Energy Working Group Project EWG 04/2003T - Costs and Effectiveness of Upgrading and Refurbishing Older Coal-Fired Power Plants in Developing APEC Economies. Report available for download from EWG website.
[2] Examples are combustion controls, burner retrofit, air preheater improvements, fan upgrades, pulverizer and sootblower upgrades, steam cycle improvements, instrumentation and controls, and improved O&M staff training.

objectives of this project are to (1) illustrate the methodology and its usefulness as a decision-making tool using actual case studies, (2) draw lessons from plant upgrading project experience that may serve to improve the prioritization and economic assessment methods proposed, and (3) make usable information, tools, and best practice guidelines more widely available to APEC developing economies faced with decisions on how to obtain the best value for the limited funds they have available for upgrading. Dissemination of the results of this study will be facilitated by a half-day workshop as part of the first Clean Fossil Energy Technical and Policy Seminar following project completion, during which experts involved in the case studies will be invited to present and discuss the results and conclusions, followed by a panel discussion.

Methodology:

The project will be carried out with the assistance of a consultant with knowledge and expertise in O&M practices, and upgrading and refurbishment of older coal-fired power generating plants. Building on the results of the recently published report (see footnote 1), the consultant will work with EGCFE members and appropriate experts in member economies to organize a set of case studies, and synthesize the information obtained and lessons learned in a set of best practice guidelines adapted to the needs of APEC developing economies. A project steering team from the EGCFE will provide guidance at various stages.

The project components will be:

- In cooperation with EGCFE members and experts from APEC economies, identify a number of suitable candidate projects that economies agree to provide as case studies.
- In consultation with designated member economy experts, develop a framework for reporting the elements of the case study projects that would facilitate comparative analysis and drawing lessons for future projects.
- Work with the experts in the economies to help them assemble the information, carry out the analyses, and report the results in a timely fashion.
- Synthesize the case study results, assess their implications for upgrading and refurbishment decision-making, and draw up a set of guidelines to aid future decision-making in this area.
- Prepare and publish a final report, including conclusions and recommendations, following EGCFE project team review and approval.
- Include a half-day workshop in its next EGCFE Clean Fossil Energy Technical and Policy Seminar to assist in effective dissemination of the results.

The RFP should be issued by early 2007, with responses due within a month and consultant selection and contract award within the following month. The first two components above should be completed by mid-2007 (including reviews by the EGCFE project steering team). The case studies should be completed during the fourth quarter of 2007. The consultant will complete the draft report for review by the EGCFE project steering team, and finalize and publish it following project team approval, by early 2008.

How does the project proposal align with EWG and APEC-wide priorities:
This project responds to priorities set out in Part 2 of the Osaka Action Agenda:
"APEC economies will set priority on the following:

a. fostering a common understanding on regional energy issues;
b. facilitating investment in the energy sector where appropriate;
c. reducing the environmental impact of the energy sector; and
d. accepting equivalence in accreditation and increasing harmonization of energy standards."

The project will contribute to increased energy security by improving the efficiency, reliability and performance of existing coal-fired power generating plants.

The project is also well aligned with cooperative activities spelled out in the Manila declaration, specifically to safeguard the quality of life through environmentally sound growth by promoting sound policies and practices, taking into account concerns about sustainable development, in addition to expanding the capacities of its members to absorb existing industrial science and technology. The project will assess and make best practice recommendations for improving existing coal-fired generating plants, resulting in lower emissions of CO_2 and air pollutants.

This project will contribute to a directive to the EWG by the APEC Energy Ministers meeting in Korea in October 2005, in the context of promoting energy efficiency, namely: "We direct the EWG to identify best practices, benchmarks and indicators to assess efficiency improvements".

Energy policy makers and power generation decision-makers in economies that substantial coal-fired power generation capacity will benefit from improved practical information on achieving more efficient and reliable operation of this capacity. The project will contribute to capacity development in the power generating sector by making best practice information more generally accessible. Cost-effective upgrading and refurbishing of older coal-fired power plants are likely to yield economic benefits while reducing the growth of global CO_2 emissions. The private sector will benefit through identification of investment opportunities to sell power plant improvement technologies and services to APEC developing economies.

The information and data to be gathered by the project and the ensuing analyses will be gender neutral, i.e., they will have no gender implication and, therefore, cannot be sex-disaggregated. The project, by its nature, does not include any activities specific to women. Its management and execution, as well as the dissemination of the results will involve women wherever possible. The degree of women involvement, in terms of responsibility and numbers, can be evaluated objectively at the conclusion of the project.

7) Budget Estimate:

Total cost of proposed Project: $120,000
Amount sought from APEC Operational Account: $80,000

EWG04 – 2007 (Operational Account)

Application of Energy Indicator Analysis in APEC Economies

Project number: *(To be filled in by Secretariat:)*		**Date received by Secretariat:**
Name of Committee/Working Group: Expert Group on Energy Efficiency & Conservation, Energy Working Group		
Title of Project: Application of Energy Indicator Analysis in APEC Economies		
Proposing APEC Economy: New Zealand		
Co-sponsoring APEC Economy (ies): China, Japan, Mexico, United States		
Project Overseer: Name, Title and Organization (**M**) Robert Tromop Energy Efficiency & Conservation Authority New Zealand		
Postal address: PO Box 388 Wellington, New Zealand		Tel: +64 4 470 2213 Fax: +64 4 499 5330 Email: Robert.Tromop@eeca.govt.nz
Financial Information	**Total cost of proposal (US$):** 100,000	**Amount being sought from APEC Central Fund** (US$): 50,000
Type of Project: X seminar/symposium ☐ short-term training course X survey or analysis and research X database/website ☐ others *(Please specify)*		
Project start date: July 2007 (self-funded inputs by APEC economies) January 2007 (for APEC-funded portion)		Project end date: December 2007

Brief description of Project : its purpose and the principal activities (including when and where) :

APEC economies will cooperate and participate in a joint exercise to develop an energy indicator trends report for the APEC region that outlines energy demand and intensity changes in the region. This will enable an effective understanding of energy demand trends and assist economies in identifying areas where they may have room to improve their energy efficiency. This approach will achieve three direct benefits for APEC economies:

- a clear sense of the status of their energy demand and efficiency;
- a direct understanding of where their economies have opportunities to improve energy data;
- hands-on experience of actually working with energy data and indicators within state-of-the-art analytical techniques;
- awareness among APEC policymakers of the scale of challenge faced in improving

energy efficiency.

This project will be undertaken with technical support from the Asia Pacific Energy Research Centre (APERC) and, upon proper approval from the EWG Secretariat, from the International Energy Agency (IEA). The project will build on data and technical capacity that already currently exist at the five APEC economies who are also IEA members: Australia, Japan, the USA, and Canada. These economies are already involved in the IEA indicators program, and New Zealand is currently in discussions with the IEA to join the indicators program.

The project will begin with a self-funded data collection and workshop in 2006, and the APEC funding will be used to refine the data analysis and convene a second workshop in 2007 that will result in the APEC Energy Indicator Trends report.

Objectives of Project :

- The project will build capacity to collect data, perform comparative analyses, and interpret analyses of indicators and comparisons of energy efficiency across APEC economies.
- The project will develop a platform for data on energy efficiency that can be used on an ongoing basis for joint collection and analysis of indicators for monitoring improvements across APEC in EE at the economy-wide and sectoral levels.
- This project will result in a concrete report for APEC policymakers that will provide detailed analysis and comparison of trends in energy demand, as well as cross-economy comparisons of energy intensity, and indicators of energy efficiency.
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Methodology:

<u>Design process for formalizing energy indicators trends reporting across APEC economies</u>

APERC has for a number of years been collecting and analyzing data on trends and indicators or energy efficiency. However, this work has been inactive since 2003, and it has taken on a new urgency in light of high energy prices and the call from APEC and world leaders to intensify efforts at energy efficiency and conservation. APERC regularly collects national energy data from APEC nations, and it can play a key role in assisting APEC economies to prepare data for sharing and comparative analysis with energy data. At the same time, the IEA has been at the forefront of international work on assessment of trends in energy use and energy efficiency. IEA was involved as a resource at an APEC-funded workshop in Moscow in September 2005, and IEA would be approached for participation in this project with coordination through the EWG and APEC Secretariats. IEA's technical assistance to APEC in this regard would initiate an important step toward international scale cooperation on energy information and data. The IEA has offered to assist APEC economies by expanding its 30-Year Energy Trends analysis to APEC economies.

<u>Initial self-funded workshop.</u> The project will begin with a call for interested economies and holding of a regional workshop in cooperation in late 2006 under the aegis of EGEE&C, with APERC and the IEA participating. The workshop will be self-funded with substantial inputs by participating economies and the IEA in the form of technical and analytical support. The purpose of the workshop will be to initiate a specific, APEC-wide cooperation on energy data and indicators; to review available data and data requirements; and to provide energy data training to APEC participants. The workshop will also identify the specific data and training needs of APEC economies; as well as the next steps needed to further develop APEC-wide cooperation on energy data and indicators.

Further data collection and analysis. Expert assistance will be provided to nations from APERC and the IEA to help them align and improve their energy data processes.

APEC-funded workshop to review APEC-wide comparisons of EE indicators. APEC funding will be used during 2007 for the following tasks:

- A Consultant will assist to review available data from APEC economies, identify data gaps, and prepare an draft report on EE indicators for a workshop to be held in mid-2007.
- A workshop will be held to review and finalize the report on EE indicators. Participation will include not only APEC economies but a small number of APEC experts with direct experience on energy data collection, statistics, indicators, and analysis. These experts will provide important peer review to the report, as well as training to the APEC participants.
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How does the project proposal align with EWG and APEC-wide priorities:

This project aligns with the following priorities in the EWG Operational Plan:

- monitoring implementation of energy efficiency policies and programs;
- developing benchmarks and indicators to assess efficiency improvement; and
- building on APEC ESIS as a clearinghouse for sharing information and benchmarking data on EE progress across APEC economies

The project is also directly aligned with the dialogue topic for EWG 31: "Driving and Measuring Best Practice Implementation."

EWG01 – 2007T (TILF Special Account)

Development of Solar Thermal Market in the APEC Economies

*(Tick ✓ one where applicable)***[ ] Operational Account** **[✓] TILF Special Account**

Name of Committee/Working Group: Energy Working Group Expert Group on Minerals and Energy Exploration and Development (GEMEED)		
Title of Project: Development of solar thermal market in the APEC Economies		
Proposing APEC Economy: Chile Co-sponsoring APEC Economies: Korea, Japan, Mexico,USA (in consultation, to be confirmed)		
Project Overseer: Name, Title and Organization (M) Mr. Tomás Astorga, Chair, GEMEED-APEC		
Postal address: Teatinos 120, Floor 9th, Santiago, Chile		Tel:56-2-4733026 Fax: 56-2-6889262 Email: tastorga@minmineria.cl
Financial Information	Total cost of proposal (US$): 240,000 (including in-kind cost contribution of the project proponent)	**Amount being sought from APEC Central Fund** (US$): 120,000
Type of Project: □ seminar/symposium □ short-term training course ✓□ survey or analysis and research □ database/website □ others *(Please specify)*		
Project start date: March 2007		Project end date: September 2008

<u>Project Objectives</u>:

Being industry and mining crucial activities for the economic and social development of most of the APEC economies, their competitiveness is strongly related to the reliability of the energy supply, the energy costs and their capability to overcome the environmental challenges. Significant thermal requirements of manufacturing processes demand low temperatures (10°C to 130°C), which could be provided by solar thermal energy, collected by vacuum and flat collectors. This solution is being explored in many developed or in transition economies, with very positive results, like Korea.

The proposed project aims in general to develop the solar thermal market in APEC member economies. The specific objectives are:

a) identify barriers to the solar thermal market development;
b) evaluation of potential replacement of conventional energy solutions by solar thermal technologies;
c) evaluation of the reduction in greenhouse gasses emissions (GHE).

This technology could be applied to heat the electrolytes of the electrochemical cells, which are used in the mining and industry sectors, agro industrial drying, food, wine and brewery industries, washing in the textile and leather industries, and heating boilers for fresh water.

It should be mentioned that copper mining in Chile demands between 20 to 40 MW_t to heat the

electrolyte of the electrolytic cells by plant, having a total demand estimated at about 4000 MW_t. As a reference, only one of those plants utilizes 13 000 m^3/year of diesel oil for a production of around 200.000 tonnes per year in a copper electrowinning process (SX/EW). The solar thermal energy has another significant potential use for heating the mix salt solutions in the nitrate industry.

This project will be carried out as case studies in 3 to 4 APEC member economies, like Korea, Peru, Mexico and Chile, taking into consideration the importance of the mentioned activities, the energy problems faced, the environmental restrictions and/or challenges, and the high level reached by Korea in the development of these appliances.

This project foresees to identify not only the barriers to the market development for this non conventional use of solar thermal collectors (usually used for residential and commercial sanitary water), but also the mechanisms required to overcome as well other barriers to the wider penetration of these technologies in both the industrial and mining sectors.

Methodology:

To accomplish these objectives, the study will take into consideration the following phases:

- Market evaluation for the solar thermal applications in Chile and other two economies
- Identification of barriers to market development
- Evaluation of conventional energy substitution
- Estimation of the environmental impacts avoided

How does the project proposal align with EWG and APEC-wide priorities:

The project proposes to reinforce and contribute to the Sustainable Development efforts deployed by many APEC economies. In fact, the project aims to:

- Strengthen the regional energy security
- Promote the use of clean and efficient energy in the mining and industrial sectors
- Build capacity and technical cooperation within the APEC economies
- Build public-private partnerships and strength stakeholder engagement in the APEC business community.

EWG02 – 2007T (TILF Special Account)

Technology Status and Project Development Risks of Advanced Coal Power Generation Technologies in APEC Developing Economies

1) Economy Expert Group

Energy Working Group / Expert Group on Clean Fossil Energy

Co-sponsoring Economies – USA, Australia, China, Chinese Taipei
TILF Operational Self-funded APEC Support Fund

2) Contact Details of Project Proponent

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3) Start Date: 2007 **Completion Date:** 2007/2008

4) Objective:

The early deployment of commercial clean coal technologies for power generation in economies where a large growth of coal use is anticipated has substantial implications for cumulative CO_2 emissions over plant lifetimes, and can be promoted by effective dissemination and exchange of information on experience to date of projects using these higher efficiency cycles in different economies. The objectives of this proposed project are to:

- gather, synthesize, and assess information on experience to date in APEC economies with regard to the status, performance, relative costs, and project development/financing risks for integrated gasification combined cycle coal-based generating plants versus higher temperature, pressure, and efficiency supercritical and ultrasupercritical pulverized-coal plants operating in different economies.

- make recommendations on policy measures and financial incentives needed to favor projects using clean coal technologies in APEC economies where energy needs are expanding rapidly and coal is the fuel of choice, and on further international collaboration that would assist in achieving this objective.

A related APEC project was approved in 2005, which will begin in 2006, will assess how environmental regulations can promote the adoption of clean coal technologies in APEC developing economies. Information developed in that project will be useful in this proposed project.

Methodology:

The project will be carried out by a consultant with knowledge and expertise in the developing clean coal power generation projects in the APEC region, including the costs, performance, and

risks of commercial projects. The consultant will review the experience to date in APEC and OECD economies, identify the relevant data and information needed, work with appropriate experts from APEC developing economies to provide a set of relevant case studies to illustrate the experience gained to date, synthesize the results, and provide and publish a report with recommendations. An EGCFE project steering team will provide guidance at appropriate stages of the project.

The following project methodology will be used:

- Review existing experience in commercial application of clean coal technologies for power generation in APEC and OECD economies.
- Identify barriers to implementation of commercial projects using clean coal technologies in APEC developing economies.
- In cooperation with EGCFE members and other experts from APEC economies, identify a number of suitable projects that economies agree to provide as case studies.
- Develop a framework for reporting the elements of the case study projects that would facilitate comparative analysis and drawing lessons for future projects. Project participants, costs, performance, risks, and risk management are important elements of a case study framework, as are the role of government and the regulatory environment.
- Work with the experts in identified economies to provide the case studies in a timely fashion.
- Synthesize the results in a report including conclusions and recommendations for actions to favor selection of clean coal technologies, especially proactive policy options and required financial incentives.
- Present the results and conclusions at an EGCFE Clean Fossil Energy Technical and Policy Seminar.
- Prepare and publish a final report following EGCFE project team review and approval.

The RFP should be issued by early 2008, with responses due within a month of the RFP being issued, and consultant selected after the proposals are reviewed within another month. The first four components above should be completed by within about 6 months of project award (including reviews by the EGCFE project steering team) with the case studies being completed by year's end. Based on guidance received from the project steering team, the consultant will complete the draft report, and finalize and publish it following EGCFE project team approval, by the end of 2007 or early 2008.

How does the project proposal align with EWG and APEC-wide priorities:

This project responds to themes and priorities for cooperative activities spelled out in the Manila declaration:

- *harness technologies for the future to ensure that APEC joint activities promote the flow and expand the capacities of its members to absorb existing industrial science and technology as well as develop new technologies for the future, thus promoting a free flow of information and technology.* The project will identify actions that could promote investment in new clean coal technologies for power generation in APEC developing economies.

- *safeguard the quality of life through environmentally sound growth by promoting sound policies and practices, taking into account concerns about sustainable development.* The project will assess and make recommendations for incentives to promote the use of clean and efficient coal-fired power generation technologies resulting in lower emissions of CO_2 and air pollutants.

APEC Energy Ministers meeting in Korea in October 2005, in the context of accelerating energy technology development, made the following declaration and directive to the EWG: "*Development and uptake of energy technologies will help APEC economies bring supply and demand into balance through increased production, diversification and efficiency and will reduce the environmental impact of energy production and use …. APEC economies are global leaders in the development of many energy technologies, and the challenge is to leverage and build on this strength through effective cooperation and collaboration…. To accelerate energy technology development, and to build on EWG efforts since EMM6: We direct the EWG to increase its cooperative activities to support the development and uptake of technologies for new and renewable energy, clean fossil energy including clean coal, carbon capture and storage, hydrogen and fuel cells, and methane hydrates.*"

Energy policy makers and power generation decision-makers in economies anticipating rapid expansion of the use of coal for power generation will benefit from improved practical information on the commercial operation of clean coal technology projects. More widespread selection of these technologies for new power plants will contribute to reduction of the growth of global CO_2 emissions, compared to the selection of conventional lower efficiency generating technologies. The private sector will benefit through identification of investment opportunities in clean energy projects using commercial clean coal technologies in APEC developing economies.

The information and data to be gathered by the project and the ensuing analyses will be gender neutral, i.e., they will have no gender implication and, therefore, cannot be sex-disaggregated. The project, by its nature, does not include any activities specific to women. Its management and execution as well as the dissemination of the results will involve women wherever possible. The degree of women involvement, in terms of responsibility and numbers, can be evaluated objectively at the conclusion of the project.

7) Budget Estimate:

Total cost of proposed Project: $120,000
Amount sought from APEC TILF Fund: $80,000

EWG03 – 2007T (TILF Special Account)

Electric Motors – Alignment of Standards and Best Practice Programmes within APEC

1) Economy/Expert Group – China
Co-sponsoring Economies – Australia, Mexico, New Zealand, Chinese Taipei and United States
APEC Account: TILF

2) Contact Details of Project Proponent
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3) Start Date: **October 2006, with an event targeted in 2007 in China**
Completion Date: **October 2009**

4) Objective:

Electric motors are the single largest energy end-use for most economies and are a widely traded commodity. Currently, minimum energy performance standards (MEPS) and endorsement label performance requirements are quite different in APEC economies, and based on differing test methods. For example, three energy performance test methods are used to measure electric motor performance:

IEC60034.2 (soon to be replaced by IEC 61972) – used mainly in Europe
ANSI/IEEE 112-1984 (Method B) and NEMA MG1-1987 – used mainly in North America
JIS C4210 – used in Japan

The project aims to promote the use of efficient motors in member economies by aligning test methods and energy performance standards. It builds on the recent agreement at the IEC to create a single method of test acceptable to world technical experts to measure motor efficiency. The project aims to facilitate the use of a single common test method and promote appropriate performance and efficiency endorsement levels amongst member economies. The use of a common test method and a set of aligned performance & "high efficiency" endorsement levels will enable suppliers to more easily market efficient products within APEC economies.

The Energy Efficiency in Motor Driven Systems (EEMODS) conference internationally is the most prominent policy conference promoting energy efficiency for motors systems. EEMODS is held bi-annually and the previous conferences have all been held in Europe. The organisers and sponsors of EEMODS will move the event to Beijing, China in mid-2007 to help focus attention on the recent IEC developments to manufacturers based in Asia, offering a real opportunity to enhance regional cooperation and collaboration for this product type.

As an outcome from EEMODS 2005, international experts are collaborating on a new initiative called *Standards for Energy Efficiency of Electric Motor Systems* (SEEEM), which aims to be the vehicle to continue the drive toward alignment of standards. SEEEM is a global partnership sourcing expertise and funding from both within and outside APEC.

The project will go beyond just a standards and labelling approach to examine linkages with best practice initiatives and to align APEC economy endeavours with best practice programs around

the world.

5) Methodology:

The project will involve the following activities:

1. Create technical advisory groups to prepare a pathway for aligned international electric motor standards over three years.
2. Review current APEC trade flow data and report on the position of all APEC economies in relation to electric motor efficiency
3. Contribute to the organisation of EEMODS 2007 in China by identifying encouraging regional policy makers and experts to attend a special harmonisation workshop.
4. Support the preparation of research and technical papers on motor testing standards, performance levels and endorsement labels.
5. Hold a workshop, in conjunction with SEEEM, as part of EEMODS 2007 to galvanise support for alignment and to consider aligning standards with a complementary best practice program for APEC economies
6. Produce workshop proceedings including a position statement and an action plan that set an agenda for alignment to drive standards alignment over the next 3 years.

Economy sponsors will provide in-kind support while APEC direct financial contributions will be used for APEC delegate travel, data collection and promotional efforts. This work would focus on:

1) Analyse and research electric motors in APEC market:

- Market situation for electric motors (motor sales, motor stock, motor operation and etc.)
- Relevant standards or agreements such as energy efficiency standards for electric motors
- Identify incentive policies (eg tax credit) to encourage the elimination of inefficient products

2) Report on practical suggestions for improving motor/motor system energy efficiency

- Build on existing practice programs such as U.S. the Motor Challenge Plan and EU motor database
- Energy efficiency standards for individual products and economical operation standards for motor systems
- Training for manufacturers, distributors and end-users

6) How project proposal aligns with EWG and APEC-wide priorities:

This project supports the previous APEC sponsored projects *Review of Energy Efficiency Test Standards and Regulations in APEC Member Economies* (EWG 3/1999), which recommend APEC support the alignment of testing to the IEC method. However, since 1999 many APEC economies are now implementing or proposing mandatory standards or endorsement levels for motors and the alignment of motor efficiency standards has become desirable. China, one of the world's largest manufacturers and buyers of motors is proposing MEPS levels that will impact regionally and wish to align internationally. The Australasian and North American motor programs are being used as a model for these efforts.

This project will support APEC efforts to reduce costs of commonly traded products. By testing and certifying motor performance in one economy to the agreed international test method, the results can be used for the compliance with efficiency requirements in another economy. In addition, the testing organisations within economies will build capacity in testing standards and strengthen ties among the member economies.

This project is similar to the successful APEC Conference *Air Conditioning and Energy Performance* held in Sydney in June 2004, where 100 delegates from APEC countries met and worked towards alignment of air conditioning test methods, to allow the transfer of common test results among nations. In combination with international efforts to support the harmonisation of testing and performance requirements for motors, this project will certainly enhance the promotion of energy efficient motor systems and reduce greenhouse gas emissions in member economies.

This project meets the following Ecotech themes from the Manila Declaration:

(i) strengthening economic infrastructure to eliminate bottlenecks to economic growth, especially in such areas as telecommunications, transportation, and energy in order to further integrate members into the regional economy, and the region into the global economy; and

(ii) harnessing technologies for the future to ensure that APEC joint activities promote the flow and expand the capacities of its members to absorb existing industrial science and technology as well as develop new technologies for the future, thus promoting a free flow of information and technology.

7) Budget Estimate: Total Budget - $150,000
TILF contribution - $75,000

EWG04 – 2007T (TILF Special Account)

Computers – 2007 Conference Launching a *Community of Practice* to Promote Aligned Standards throughout APEC by 2010

1) Sponsoring Economy – Australia
Co-sponsoring Economies – China, Chinese Taipei, Japan, Mexico, New Zealand and United States
APEC Account: TILF

2) Contact Details of Project Proponent
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3) Start Date: **October 2006, Forum targeted in 2007**
Completion Date: **October 2009**

4) Objective:

This proposal seeks funding for an international forum focused on the energy efficiency of desktop computers. The aim of conference would be to support the subsequent development of a common test method and aligned performance standards for desktop computers over a three year timeframe in APEC economies.

Desktop computers are estimated to consume an estimated 26 TWh electricity per annum globally and are one of the fastest growing electrical loads in the domestic and commercial sectors. The project will to establish a '*Community of Practice*' focused on increasing the energy efficiency of desktop computers. This term refers to a project where interested stakeholders from APEC economies can contribute to developing a common test method and agreed performance standards facilitated by the APEC ESIS website.

The current market for desktop computers, 180 million units in 2005, continues to experience growth in both developed and developing countries, and while there has been increases in energy efficiency in some market segments, this is outweighed by the development of more powerful machines with increased functionality, and competitive pressures on costs.

Although many national energy efficiency agencies have initiated programs and policies aimed at desktop computers, in general they have struggled to keep up with the pace technological change and international markets. For example, updating of the Energy Star standby power specifications has been delayed by several years. The US based industry has suggested that future testing of energy efficiency should include tasking the computer to undertake agreed functions (creating an "on mode" and not be limited to just standby power modes).

This problems in improving efficiency of desktop computers, include:

- Improved technology exists already, mainly driven by the need for laptops to conserve energy but it is not easily transferred by the market to desktop versions;
- The industry is organised and operates globally, and will have difficulty in meeting differing national requirements that are not at least aligned over time;
- National energy efficiency agencies often do not always have the individual technical capacity

or knowledge, or the resources, to negotiate with such a concentrated and powerful multi-national industry;

- There is no established process for energy efficiency agencies from different countries to share information, develop common policies, and to carry out a dialogue with a specific industry group operating beyond national borders.

This proposal seeks to overcome these problems by holding an international forum focused on desktop computers with the aim of supporting the development of a single global test method and aligned performance requirements.

5) Methodology:

This initiative will build on the experience of recent international harmonisation projects for External Power Supplies, a component of computers, where the US, China and Australia worked with industry and technical experts. The main elements of the project would include:

- An open invitation directed to industry, technical experts, national energy efficiency agencies, NGOs and other stakeholders to participate in a standards setting exercise that will lead to an IEC standard;
- A web-based interactive forum, enabling the posting of discussion items, proposals, comments, information and educational materials;
- Regular progress reporting and workshops at approximately six to twelve monthly intervals, organised to coincide with international energy events relevant to the computer industry and efficiency agencies;
- Co-ordinated by a small international team, funded by their own organisations, leading working groups for each of the following activities:
  - Test Methods
  - Performance specifications
  - Compliance issues
  - Testing capacity and accreditation matters

The key to the international project would be an event sponsored by APEC gathering all parties at an event to be determined in either Chinese Taipei (where so much of these products are manufactured) or in the USA (where so many major suppliers are headquartered) to launch the effort. The APEC funding would be crucial in establishing the consensus necessary for all interested parties to participate in this cooperative project that would take several years to deliver aligned test and performance standards for desktop computers.

6) How project proposal aligns with EWG and APEC-wide priorities:

1. Trade and Investment Liberalisation:

The project will assist international trade by establishing a framework for the development of harmonised test standard and performance requirements for this significant globally traded commodity.

2. Business Facilitation

For suppliers of desktop computers, the project will provide a facility to interact with policy-makers involved in regulating their products. It will also provide easy access to information on

performance requirements, which may be difficult at present for smaller companies.

3. Economic and Technical Cooperation

The project is a partnership between those in the public sector and companies involved in the manufacture and supply of desktop computers. It allows free entry to all stakeholders to participate without prejudice. This is fundamentally different from conventional standards-making processes which often preclude smaller bodies, and new entrants from having a voice and so do not have widespread support.

7) Budget Estimate: Total - $100,000 TILF contribution - $50,000

EWG01 – 2007ASF (APEC Support Fund)

Increasing LNG Trade and Investment in the APEC Region: Knowledge Transfer and Capacity Building through Visits to LNG Liquefaction and Receiving Terminals

2) Economy Expert Group –
Energy Working Group / Expert Group on Clean Fossil Energy

Co-sponsoring Economies – USA, Australia, Chinese Taipei, Korea, Philippines

TILF Operational Self-funded **APEC Support Fund**

2) Contact Details of Project Proponent
Name and Postal Address:

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3) Start Date: 2007 **Completion Date:** 2008

4) Objective:

This proposed project responds to a specific directive from the APEC Energy Ministers to the EWG (see section 5 below). The objective is to organize and carry out a series of short-term capacity building visits to select LNG facilities for approximately 25 experts from APEC economies that are at an early stage of an LNG import project or are considering LNG imports for the future. Candidate economies might be China, Philippines, Thailand, Vietnam, and visits could be arranged to China, Korea, Japan, Malaysia, Australia, and USA, for example. The visits will be arranged during 2007 and will be grouped to the extent possible to minimize travel and total time needed.

5) Methodology:

The project will be carried out by a consultant with experience in the area of LNG trade and development, and specific knowledge and expertise of the technologies and economics of LNG exporting and importing facilities. This consultant will be responsible for organizing and carrying out the facility visits and for synthesizing the information obtained and lessons learned in a final report to the EGCFE. A project steering team from the EGCFE will provide guidance at various stages.

The agenda for facility visits will aim to cover the following general topics:
Facility design and costs

Regulatory environment and permitting.
Contractual issues
Safety, security, and emergency response
Public information and consultation
Operation and maintenance
Environmental protection
Lessons learned in carrying out the construction and operation of the facility
Other topics may be covered as considered appropriate by the host facility.

The project components will be the following:

- Identification of participants from APEC economies
- Contacts with LNG facility owners/managers and identification of LNG facilities to be visited
- Development of a schedule and draft agendas for the facility visits
- The visits to LNG facilities
- Individual reports on the results of the visits by participants to their authorities
- Drafting of a final report on the facility visits by the consultant with input from APEC member economy participants
- Review of the draft final report by the EGCFE project steering team
- Finalization and publication of the report by the consultant, submission of the report to APEC, and publication of the report

The RFP should be issued by early 2007, with responses due within a month and and consultant selection and contract award within another month. The first three components above should be completed the end of the third quarter of 2007 (including reviews by the EGCFE project steering team). The facility visits should if schedules permit take place sometime during late 2007. Based on guidance received from the project steering team and the workshop, the consultant will complete the draft report and circulate it to the team and the EGCFE by the end of 2007 or early 2008 for comments and approval. The report will be finalized and published by the end of March 2008.

6) How project proposal aligns with EWG and APEC-wide priorities:

Energy Ministers, at their Sixth Meeting in Manila in June 2004, instructed the EWG to continue its broad-based approach to energy security, which includes initiatives for expanding energy choices in the longer term. The Final Declaration from the Ministers meeting contains the following statement and directive to the EWG: "We support the creation of a competitive and transparent marketplace for gas trade and encourage member economies to move towards best practice as identified in 'Facilitating the Development of LNG Trade in the APEC Region,' recognising the important contribution of the private sector in developing these principles, and direct the EWG to implement its recommendations." This project responds to one of these recommendations: **"Develop a program for interested member economies to visit various LNG liquefaction and receiving terminal facilities in the APEC region as a means to expand the knowledge base."**

Energy policy makers in economies that are or intend to be LNG importers will benefit from improved information on the development and operation of LNG liquefaction and receiving facilities, issues related to regulations and permitting, security and safety considerations, and public information. Participants from member economies participating in the facility visits will provide a nucleus within their own economies for technology transfer and capacity building in the LNG area.

The information and data to be gathered by the project and the ensuing analyses will be gender neutral, i.e., they will have no gender implication and, therefore, cannot be sex-disaggregated. The project, by its nature, does not include any activities specific to women. Its management and execution as well as the dissemination of the results will involve women wherever possible. The degree of women involvement, in terms of responsibility and numbers, can be evaluated objectively at the conclusion of the project.

7) Budget Estimate:

Total cost of proposed Project: $260,000
Amount sought from APEC Support Fund: $120,000

EWG02 – 2007ASF (APEC Support Fund)

Increasing LNG Trade and Investment in the APEC Region: Case Studies of Public Education and Information Campaigns in APEC Economies, and Development of Best Practice Guidelines

1 Economy Expert Group –
Energy Working Group / Expert Group on Clean Fossil Energy

Co-sponsoring Economies – USA, Australia, Chinese Taipei, Korea, Philippines

TILF Operational Self-funded **APEC Support Fund**

2) Contact Details of Project Proponent

Scott M. Smouse, Chair, APEC Expert Group on Clean Fossil Energy
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3) Start Date: 2007 **Completion Date:** 2008

4) Objective:

Informing and educating the public are critical to the success of LNG projects and to the growth of LNG trade in the APEC region. Public concern about the safety of LNG ships, terminals, and storage facilities has surfaced any time a new project was considered. The concern is legitimate and requires an adequate response in the form of public information, consultation and education. Exchange of information on the elements of public information and education campaigns, and on their successes or failures, is valuable as input to those involved in future new LNG projects.

This proposed project responds to specific directives from the APEC Energy Ministers to the EWG (see section 5 below). A related APEC project approved in 2005 and beginning in 2006 will organize and hold a Workshop to exchange information on public education campaigns related to LNG in APEC economies. Information developed in that project will inform the present proposed project.

The purpose of this project is to provide information on and examine in greater depth a number of case studies of public education, consultation, and information campaigns held in APEC member economies, and to develop best practice guidelines that will assist APEC developing economies in their communications with stakeholders and the public.

5) Methodology:

The project will be carried out by a consultant with experience in the areas of public education and information in the energy field, preferably concerning LNG. This consultant will have responsibility for identifying a set of appropriate case studies in consultation with EGCFE

members, developing a framework for reporting these case studies, working with designated experts in APEC economies, ensuring timely completion of the case studies, and providing a synthesis report including best practice guidelines. A project steering team from the EGCFE will provide guidance at various stages. The project components will be:

In cooperation with EGCFE members and experts from APEC economies, identify a number of suitable candidate projects that economies agree to provide as case studies.
In consultation with designated member economy experts, develop a framework for reporting the elements of the case study projects that would facilitate development of best practice guidelines.

Work with the experts in the economies to ensure that the results of individual case studies are provided in a timely fashion.

Synthesize the case study results, assess their implications for public education and information campaigns, and draw up a set of best practice guidelines for future LNG projects in APEC economies.

Prepare and publish a final report following EGCFE project team review and approval.

The RFP should be issued by early 2007, with responses due within a month and consultant selection and contract award within another month. The first three components above should be completed the end of the third quarter of 2007 (including reviews by the EGCFE project steering team). The facility visits should if schedules permit take place sometime during late 2007. Based on guidance received from the project steering team and the workshop, the consultant will complete the draft report and circulate it to the team and the EGCFE by the end of 2007 or early 2008 for comments and approval. The report will be finalized and published by the end of March 2008.

6) How project proposal aligns with EWG and APEC-wide priorities:

Energy Ministers, at their Sixth Meeting in Manila in June 2004, instructed the EWG to continue its broad-based approach to energy security, which includes initiatives for expanding energy choices in the longer term. The Final Declaration from the Ministers meeting contains the following statement and directive to the EWG: "We support the creation of a competitive and transparent marketplace for gas trade and encourage member economies to move towards best practice as identified in 'Facilitating the Development of LNG Trade in the APEC Region,' recognizing the important contribution of the private sector in developing these principles, and direct the EWG to implement its recommendations. This project responds to one of these recommendations: **"Develop a mechanism, possibly through the EGCFE, to share information on regulations, standards, public education campaigns and other best practices, for example through case studies, workshops, and APEC-funded projects."**

At their Seventh Meeting in Korea in October 2005, Energy Ministers reinforced their emphasis on public education and information, approving an initiative on this introduced by Chinese Taipei. Their Final Declaration included the following: "We direct the EWG to implement the LNG Public Education and Communication Information Sharing Initiative and to continue efforts to improve the collection of natural gas data." The Initiative includes development of a dedicated website for sharing information on public education and communication. The cases studies and guidelines developed in this project will be integrated into the body of information on the Initiative's website.

This information will enable member economies to communicate more effectively with their publics, which will in turn contribute to more efficient and timely realization of LNG import projects in individual economies and to the creation of an environment that contributes positively to growth of cross-border energy trade and investment in LNG.

The information and data to be gathered by the project and the ensuing analyses will be gender-neutral, i.e., they will have no gender implication and, therefore, cannot be sex-disaggregated. The project, by its nature, does not include any activities specific to women. Its management and execution as well as the dissemination of the results will involve women wherever possible. The degree of women involvement, in terms of responsibility and numbers, can be evaluated objectively at the conclusion of the project.

7) Budget Estimate:

Total cost of proposed Project: $120,000
Amount sought from APEC Support Fund: $80,000

EWG03 – 2007ASF (APEC Support Fund)

Survey of Biomass Resource Assessments and Assessment Capabilities in APEC Economies

1) Economy/ Expert Group –
APEC Biofuels Task Force / Energy Working Group

Co-sponsoring Economies – Thailand, United States, others to be determined
Underline the APEC Account from which you are seeking funds for your project proposal.
TILF – Operational – Self-Funded – APEC Support Fund

2) Contact Details of Project Proponent
Name and Postal Address: Jeff Skeer
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3) Start Date: 1 June 2006 (for portion self-funded by Biofuel Task Force members) Start Date: 1 January 2007 (for portion supported by APEC Support Fund)
Completion Date: 1 May 2007 (preliminary report), 1 July 2007 (final report)

4) Objective: Understand the full range of biomass resource assessments that have been undertaken or are planned in APEC economies, understand what further resource assessments would be needed to obtain a complete picture of the biofuel resource potential in the APEC region, evaluate economies' current capabilities to carry out such assessments, and suggest how these capabilities might be enhanced.

5) Methodology: (a) During 2006, Biofuel Task Force members and EWG members would be requested to provide information on biofuel resource assessments that have already been undertaken or are planned in their respective economies. Interested Biofuel Task Force members would volunteer to summarize the assessments that have been undertaken, in terms of the types of agricultural and forestry feedstocks that are considered in the assessments, the types of land that are considered in the assessments, assumed rates of growth in output per hectare of land for various feedstocks, and conclusions about the total biofuel resource currently or potentially available, with implications for the amount of oil that could be displaced.

(b) This Biofuel Task Force Resource Assessment Team would also prepare a questionnaire for member economies on their biofuel resource assessment capabilities, including the types of agricultural and forestry data collected, the number of different feedstocks for which data are collected, the level of detail at which data are collected (for example, province by province, county by county), and the methodologies used by agricultural and forestry experts to assess likely rates of growth in resource productivity in view of anticipated improvements in crop yields.

(c) The Expert Group on New and Renewable Energy Technologies and the Energy Working Group would be asked at their second meeting of 2006 to review the summaries prepared by the Resource Assessment Team and provide additional information.

(d) During 2007, consultants selected by the Resource Assessment Team would assist in preparing a preliminary report for consideration by ministers at EMM-8 in May. Taking account of comments by ministers, a final report would be issued in July.

6) How project proposal aligns with EWG and APEC-wide priorities: At EMM-7 in Gyeongju, Korea, energy ministers agreed that an effective response to growing oil import dependency for the region as a whole requires a mix of demand- and supply- side measures including alternative fuels. Ministers therefore directed the EWG to establish a Biofuels Task Force, which Leaders then endorsed in November 2005. A key remit of the Biofuels Task Force, according to draft Terms of Reference under discussion for endorsement at EWG-31, is to build consensus on the extent of current and potential biofuel resources in the APEC region, in view of limitations on land for crops and forest, tradeoffs between food and fuel production, and the potential of new technologies to boost output and ease those tradeoffs. Evaluation of biofuel resources is also listed as a goal within the EWG Operational Plan for 2006.

7) Budget Estimate: US $100,000 (consisting of US$50,000 of in-kind effort by Biofuels Task Force members during fiscal 2006). To be matched by US$50,000 (from the APEC Support Fund for analysis and synthesis of information into a report).

EWG04 – 2007ASF (APEC Support Fund)

Establishment of an APEC Municipal Network to Promote Energy-Efficient Buildings and Communities

1) Economy Expert Group –
EWG Expert Group on Energy Efficiency and Conservation

Co-sponsoring Economies – United States and others to be determined
Underline the APEC Account from which you are seeking funds for your project proposal.
TILF – Operational – Self-Funded – APEC Support Fund

2) Contact Details of Project Proponent
Name and Postal Address: Jeff Skeer
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3) Start Date: 1 June 2006 (for portion self-funded by project participants) Start Date: 1 January 2007 (for portion supported by APEC Support Fund)
Completion Date: 1 May 2007 (preliminary report), 1 October 2007 (final report and establishment of ongoing municipal network website)

4) Objective: Building on existing activities at the municipal level, establish a network of cities and towns throughout the APEC region to exchange information on effective strategies for promoting the design, financing and construction of high-performance buildings and communities that use the latest energy efficiency and renewable technologies. Design the network so that it can readily be linked with similar networks in other regions. Understand the range of strategies that have been put in place to promote high-performance, energy-efficient buildings in APEC economies, and report to ministers and leaders on the types of strategies that have been successful. Examples of strategies on which information is to be exchanged include public-private partnerships, regulatory policies and incentives, efforts to build municipal capacity for energy planning and management, development of planning criteria that take account of public benefits, innovative financing mechanisms that more fully account for the cash flow value of energy savings from efficiency measures, government sector leadership in energy efficiency and sustainable facilities, and regional and metropolitan area planning.

5) Methodology: (a) During 2006, project participants and EWG members would be requested to identify cities in their respective economies that have innovative strategies for promoting high-performance buildings and communities. They would also be asked to identify networks of such cities that may already exist in their economies (such as China's network of municipalities for promoting sustainable development and Australia's planned network of solar cities) or in other regions (such as the Municipal Network for Energy Efficiency in Central Europe).
(b) In cooperation with interested cities and non-government organizations, project participants would then prepare a list of various strategies for promoting energy-efficient buildings and communities, along the lines described under item (4) above, with each type of strategy illustrated by one or more examples derived from actual experience.

(c) Using the list of strategy types, interested cities would be invited to contribute summary descriptions of the strategies they have used to promote energy efficient buildings and communities, using a sample template developed by the US as project proponent.

(d) The Expert Group on Energy Efficiency and Conservation and the Energy Working Group would be asked at their second meeting of 2006 meetings to review the strategy descriptions prepared by participating cities and to provide additional information. Interested members of the Expert Group on New and Renewable Energy Technologies (EGNRET) would also be asked to comment and provide information.

(e) Early in 2007, consultants selected by the project participants would assist in preparing a preliminary report for consideration by ministers at EMM-8 in May. Taking account of comments by ministers, a final report would be issued in late 2007 as a basis for discussion at the EGEE&C and EWG fall meetings.

(f) Later in 2007, consultants selected by the project participants (not necessarily the same consultants described in (e) above) would work with participants to establish a website on which the information about strategies for promoting energy efficient buildings and communities could be posted, and then revised and expanded over time. The website would be designed to be compatible with similar websites in other regions. Interested cities and networks identified in (a) would be linked through the website. Development of the website would take account of lessons learned by organizations involved in developing other networks (such as the Alliance to Save Energy and the International Council for Local Environmental Initiatives – ICLEI).

(g) Project participants would seek from among themselves an economy willing to continue to host the website to support the municipal network over time.

6) How project proposal aligns with EWG and APEC-wide priorities: At EMM-7 in Gyeongju, Korea, energy ministers directed the Energy Working Group to implement an initiative on financing high-performance buildings and communities, which was encouraged in the joint statement of ministers endorsed by Leaders. The establishment of a region-wide municipal network to promote energy-efficient buildings and communities is a key component of the initiative as approved by ministers, which can provide the core of information needed for subsequent steps under the initiative, such as the development of pilot financing programs to provide incentives for the design and construction of high-performance buildings.

7) Budget Estimate: US $150,000 (consisting of US$50,000 of in-kind effort by participating economies during fiscal 2006). To be matched by US$50,000 from the APEC Support Fund (for analysis and synthesis of information into a report and another US$50,000 of effort to support the municipal network website).

EWG05 – 2007ASF (APEC Support Fund)

Survey of Policies to Promote Energy Efficiency in Transport in APEC Economies

1) Economy Expert Group –
EWG Expert Group on Energy Efficiency and Conservation

Co-sponsoring Economies – United States, New Zealand, Mexico, Chinese Taipei, China, Japan, and others to be determined
Underline the APEC Account from which you are seeking funds for your project proposal.
TILF – Operational – Self-Funded – APEC Support Fund

2) Contact Details of Project Proponent
Name and Postal Address: Jeff Skeer
Telephone: 1-202-586-3662
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E-mail: jeff.skeer@hq.doe.gov

3) Start Date: 1 June 2006 (for portion self-funded by project participants) Start Date: 1 January 2007 (for portion supported by APEC Support Fund)
Completion Date: 1 May 2007 (preliminary report), 1 July 2007 (final report)

4) Objective: Understand the full range of policies that exist to enhance the energy-efficiency and reduce the oil dependency of freight and passenger transport in APEC economies, report to ministers and leaders on successful policy approaches, and draw on this best practice information to develop future projects to advance energy-efficient transportation and reduced oil dependency in the APEC region.

Examples of transportation energy efficiency policies to be considered include: incentives for the purchase of fuel-efficient vehicles; fuel-efficiency standards and labeling for vehicles and tires; incentives for switching freight shipments from highways to less energy-intensive modes such as rail and sea; programmes to enhance the availability and convenience of public transit; transit system energy efficiency (routing, driver training, bus-priority lanes and signal control); efficient vehicle selection and operation for government fleets; fuel taxes; support for development and demonstration of technologies to improve vehicle fuel economy; public information campaigns to encourage carpooling; flexible work schedules and locations; traffic system management; road pricing; carpooling; and "smart growth" planning and permitting criteria that promote greater density, mixed-use development, and use of non-motorized transport in the design of towns and cities.

5) Methodology: (a) During 2006, the US as project overseer will develop a proposed framework for categorizing transport sector programs and policies along the lines described under item (4) above, as well as a template for summarizing key program information.

b) Project participants and EWG members will be requested to collect information on existing policies and programs to enhance the energy efficiency of freight or passenger transport in their respective economies and to volunteer to summarize the policies, along with available estimates of the amount of oil displaced by these policies.

(c) The Expert Group on Energy Efficiency and Conservation and the Energy Working Group will be invited to present this initial information from each economy, for discussion at their second meeting of 2006, and to identify key policy issues, trends, information gaps to be addressed, and ideas for future policies and programs.

(d) During 2007, the requested APEC funds will be used to support consultants to analyze in more depth the program data collected from participating APEC economies, as well as from a literature search on transportation sector energy efficiency focused on the APEC economies. The consultant will assist in preparing a preliminary report, drawing on these sources, for consideration by ministers at EMM-8 in May. Taking account of comments by ministers, a final report would be issued in September, for consideration at the second EGEE&C meeting of 2006 as a basis for developing future collaborative projects to advance transportation sector energy efficiency and oil savings in APEC economies.

6) How project proposal aligns with EWG and APEC-wide priorities: At EMM-7 in Gyeongju, Korea, energy ministers agreed that an effective response to growing oil import dependency for the region as a whole requires a mix of demand- and supply- side measures, including increased energy efficiency in transport. Transport is highly dependent on oil and by far the greatest user of oil in APEC economies. Therefore, increased efficiency in transport is essential to curbing oil dependency.

7) Budget Estimate: US $100,000 (consisting of US$50,000 of in-kind effort by participating economies during fiscal 2006). To be matched by US$50,000 from the APEC Support Fund (for analysis and synthesis of information into a report).