

REPORT TO MINISTERS

BY THE LEAD SHEPHERD OF THE APEC ENERGY WORKING GROUP

Sixth Meeting of APEC Energy Ministers Manila, the Philippines, 10 June 2004

1 INTRODUCTION

1.1 The Energy Working Group's (EWG) work program responds to the directions of APEC Energy Ministers, taking into account the decisions of APEC Economic Leaders.

1.2 This report informs Ministers of the activities undertaken by the EWG since the Fifth Meeting of APEC Energy Ministers (EMM5) in Mexico City, Mexico, July 2002.

1.3 At EMM5, Ministers presented the EWG with a challenge: to foster regional energy cooperation by setting a long-term vision and implementing short term actions. Ministers reaffirmed their commitment to the goals of economic growth, energy security and environmental protection.

1.4 The EWG has taken up this challenge through a significant work program underpinned by the theme of energy security. The work program recognises that economic growth is dependant on reliable, adequate and affordable access to energy, and that the contribution of energy to economic growth must also be environmentally and socially sustainable.

1.5 This report identifies the achievements of the EWG in implementing this work program and responding to directions of Ministers and APEC Leaders.

2 ENERGY SECURITY

2.1 At EMM5 in July 2002, Ministers directed the EWG to further implementation of the Energy Security Initiative (ESI), originated in 2000, and endorsed recommendations in five key areas: joint oil data; sea-lane security; real-time emergency information sharing; oil supply emergency responses; and non-petroleum and longer-term responses ([Annex 1](#)).

2.2 To facilitate implementation of the ESI, in 2003 the EWG developed an Implementation Plan which was endorsed by APEC Leaders at their meeting in Bangkok. The ESI Implementation Plan outlines the activities which the EWG will pursue to support the implementation of the Energy Security Initiative and, where appropriate, the timeframes within which these will be achieved ([Annex 2](#)).

2.3 In Bangkok, APEC Leaders also endorsed a new APEC Action Plan to Enhance Energy Security. The Action Plan identifies several new activities and timeframes in the areas of natural gas trade, energy emergency responses, energy investment, methane hydrates and hydrogen ([Annex 3](#)).

2.4 The Energy Security Initiative, including the Implementation Plan and the APEC Action Plan to Enhance Energy Security, forms the core of the EWG's energy security agenda.

2.5 To coordinate the broad range of activities under the ESI and ensure that the EWG achieves its objectives, we have convened an Energy Security Initiative Steering Committee to oversee implementation of all aspects of the ESI.

2.6 The EWG has made significant progress towards implementing the recommendations of the Energy Security Initiative, and these achievements are outlined below.

2.7 It should be emphasised that, although a distinction is made between short and long-term measures, this separation is to some extent artificial. The EWG recognises the important interrelationship between measures that respond to short-term supply disruptions and those that address the region's longer-term energy security challenges. As such, a number of EWG activities address both aspects.

3. SHORT-TERM MEASURES

3.1 Joint Oil Data Initiative

3.1.1 The Joint Oil Data Initiative (JODI) is intended to improve transparency in the global oil market by making improved data available to participants. The Exercise is undertaken jointly by six organisations – APEC, International Energy Agency, European Union, Latin-American Energy Organization, Organisation of Petroleum Exporting Countries and the United Nations Statistical Division. It has been in permanent operation since September 2002. APEC's contribution to JODI is managed by the Expert Group on Energy Data and Analysis.

3.1.2 All APEC economies have contributed data to JODI and although improving, variations in data quality, timeliness and completeness continue. Currently, nine member economies provide data within the specified time period of one month. A further ten economies provide data within two months. The remaining two economies provide data only after significant delays. Globally, approximately eighty economies comprising ninety three per cent of global oil production and ninety five percent of consumption have contributed to the database.

3.1.3 The EWG, through the Asia Pacific Energy Research Centre (APEREC) and the EWG Expert Group on Energy Data and Analysis, provides member economies with capacity building services to support the collection and reporting of data. For example, EGEDA's Coordinating Agency has worked with several member economies to improve their data collection and reporting capacity, and Japan has hosted two International Workshops on Energy Statistics in the APEC Region.

3.2 Sea-lane Security

3.2.1 Since conducting a Sea-Lane Disruption Simulation Exercise in April 2002, which identified necessary actions for preparing APEC economies to address disruptions, the EWG has undertaken several activities to strengthen sea-lane security within the APEC region.

3.2.2 In August 2002, the then EWG Lead Shepherd wrote to the President of the International Maritime Organisation (IMO) requesting consideration of upgrading the navigational aids in the straits of Sunda and Lombok. The IMO indicated its willingness to provide technical assistance upon the request of relevant national governments. I, on behalf

of the EWG, wrote to the Chair of the APEC Transportation Working Group outlining the conclusions of the Sea-Lane Disruption Simulation Exercise. The Transportation Working Group welcomed our offer of future engagement with the EWG on this issue.

3.2.3 The EWG acknowledges that considerable work to enhance maritime security is being undertaken by the IMO and the Transportation Working Group. In March 2004, the EWG agreed that it should continue to monitor the implications of this work for the transportation of energy by sea.

3.3 Real-Time Emergency Information Sharing

3.3.1 The Real-Time Emergency Information Sharing System, developed by Japan, was successfully trialled with several member economies in February 2004 and has been endorsed for implementation. APERC will serve as System Coordinator and Secretariat.

3.3.2 The System is an internet-based service which provides real-time communication in the form of a chat-room, and data sharing in the form of a bulletin board. The system also provides access to APEC's Joint Oil Data.

3.3.3 Member economies have been asked to nominate Emergency Contacts responsible for operating to the System and who will determine, in consultation with EWG Members, the type of information to be shared among Members in the event of an energy emergency affecting the APEC region. To date, fifteen economies have nominated Emergency Contacts.

3.4 Energy Emergency Response

3.4.1 APERC has undertaken several projects on the subject of oil supply security since EMM5, including: *Energy Security Initiative: Emergency Oil Stocks as an Option to Respond to Oil Supply Disruptions* (2002) and *Energy Security Initiative: Some Aspects of Oil Security* (2003).

3.4.2 In order to prioritise and improve APERC's research activities to support all aspects of the EWG work program, Japan finalised the 'Medium-term strategic plan for the support of APERC' in March 2004. The plan highlights APERC's basic approach, the goals of each activity, the cooperation sought from member economies, the performance indicators it has established to report annually to the EWG, and the requirement that APERC undergo a comprehensive review in late 2007-early 2008 ([Annex 4](#)).

3.4.3 In May 2003, the United States hosted a workshop on oil supply emergency response arrangements. The workshop enabled member economies to share information and experiences on establishing response arrangements at the national, local and single infrastructure levels.

3.4.4 The Republic of Korea hosted a joint oil stockpiling workshop in December 2003. The workshop enabled economies to share experiences and explore options for establishing joint stockpiles between member economies.

3.4.5 EWG Members have agreed to share information on energy emergency response planning through an economy presentation at each EWG meeting. The Republic of Korea (December 2003) and the People's Republic of China (March 2004) were the first economies to make presentations.

3.4.6 In December 2003, Members agreed to form an ad hoc group to identify best practices for the establishment and management of oil stockpiles. Under the leadership of the United States, this group has developed a set of best-practice principles for the establishment and management of oil stockpiles to serve as a guide for interested economies ([Annex 5](#)).

3.4.7 Chinese Taipei led the EWG 'Earthquake Response Cooperation Program for Energy Supply Systems' under the Earthquake Response Cooperation Initiative. The Program, which seeks to enhance the robustness of electricity supply systems in the event of an earthquake, completed its third and final phase in 2003. Project outputs include a website to share information and a series of annual seminars. Future mechanisms for cooperation have been proposed for EWG consideration.

4 LONGER-TERM RESPONSES

4.0.1 In accordance with the directions of Ministers, the EWG takes a broad view of energy security. The Energy Security Initiative acknowledges that the long-term sustainability of energy production and use is a key feature of energy security. Since EMM5, the EWG has undertaken a wide range of activities which contribute to these goals.

4.1 Energy Investment

4.1.1 At EMM5, Ministers directed the EWG to explore ways of working more closely with financial institutions to facilitate infrastructure investment in the region. The EWG has subsequently undertaken a great deal of work on the issue of energy investment, holding three workshops addressing investment in energy infrastructure, energy efficiency projects and renewable energy.

4.1.2 A workshop on financing energy efficiency projects was held in Australia in February 2004. The workshop, which was attended by government officials, energy experts and financiers from around the APEC region, shared a range of government and private sector perspectives and recommended ways in which the EWG can facilitate investment in energy efficiency. [Annex 3](#)

4.1.3 A workshop on financing energy infrastructure was held in Hong Kong, China, in March 2004. The workshop, the first to be hosted by the EWG Business Network (EBN), involved private banks, multilateral financial institutions, energy businesses and government officials. Participants considered the perspectives of project financiers and identified 'ten priorities' which will be raised during the EMM6 government-private sector dialogue. These efforts respond to the direction of Ministers to "work more closely with financial institutions to facilitate infrastructure development within the region".

4.1.4 At the EWG Meeting held shortly after the workshop in Hong Kong, China, EWG Members asked that the EBN strengthen its relationship with the EWG through increased participation in EWG Meetings and more close interaction with APERC, both financially and intellectually.

4.1.5 A workshop on financing renewable energy projects was held in the United States in May 2004. The workshop, which built on previous work undertaken by the Expert Group on

New and Renewable Energy Technologies, identified a series of best practice examples and recommended ways in which the EWG could facilitate investment in renewable energy projects.

4.1.6 The recommendations from all three workshops have been brought together in one Energy Investment Report, which proposes ways in which the EWG can help APEC economies to facilitate financing in energy infrastructure, energy efficiency and renewable energy projects ([Annex 6](#)).

4.2 Natural Gas Trade

4.2.1 A workshop on furthering trade in Liquefied Natural Gas (LNG) was held in the United States in April 2004. The workshop, which involved a range of government and industry stakeholders from member economies, developed a series of best practice principles and recommendations for the facilitation of LNG trade ([Annex 7](#)).

4.2.2 At EMM5, Ministers directed the EWG to expand its work on barriers to cross-border interconnection of energy grids to include gas networks. The EWG is currently undertaking an APEC-funded project that will examine specific cross-border gas projects (pipelines and LNG) and develop a series of case studies and a best practice guide for dissemination to member economies.

4.2.3 As directed by APEC Leaders in 2003, the EWG, through the United States and APERC, investigated the feasibility of developing an online Gas Data Market System for the region. It concluded that sufficient information is currently available and proposed that the EWG establish convenient links through the EWG website.

4.3 Nuclear Power

4.3.1 In March 2004, EWG Members endorsed a framework for the discussion of nuclear power within the EWG. The framework, which recognises that non-emitting electric generation sources such as nuclear power may be an option for economies seeking to achieve energy supply diversification, identifies a range of activities that complement the work undertaken in existing international nuclear organisations ([Annex 8](#)).

4.3.2 Activities include considering the role of nuclear power in the region, identifying areas of cooperation, increasing public awareness, building capacity within interested economies and promoting adherence to international legal instruments. To implement the framework the EWG has formed an ad hoc group led by the Republic of Korea and Mexico.

4.4 Energy Efficiency

4.4.1 The EWG recognises the potential for energy efficiency to reduce energy demand and lower energy costs and, in doing so, further the region's energy security and sustainable development objectives. The EWG has undertaken a number of energy efficiency activities, primarily through the Expert Group on Energy Efficiency and Conservation.

4.4.2 The Energy Standards & Labelling Cooperation Initiative, led by Chinese Taipei, facilitates the exchange of information, knowledge and experiences through a series of seminars and conferences. It includes the APEC Energy Standards Information System

(APEC-ESIS), a comprehensive website providing government and industry stakeholders with information on testing standards, minimum energy performance standards and labelling requirements for a range of equipment traded in the APEC region. Its success will see it expand to include information and data from several non-APEC economies.

4.4.3 EWG Members participate in the Pledge and Review Program, which encourages the exchange of information about energy efficiency policies and programs in member economies. In March 2004, Members reaffirmed their commitment to a reinvigorated program that will focus on a specific energy efficiency issues and monitor the implementation of nominated energy efficiency policies and programs.

4.4.4 In February 2004, EWG Members joined the business community and the financial sector in a workshop that explored ways to facilitate the financing of energy efficiency projects. The recommendations of that workshop are included in the Energy Investment Report ([Annex 6](#)).

4.5 Renewable Energy

4.5.1 The EWG recognises that renewable energy can make an important contribution to diversifying energy supplies in member economies and enhancing the sustainability of energy production and use. EWG activities in this area are coordinated by the Expert Group on New and Renewable Energy Technologies.

4.5.2 A key element of this effort is the 21st Renewable Energy Development Initiative (REDI). REDI comprises eight 'collaboratives', each focusing on an aspect of renewable energy and led by one member economy. Since EMM5, REDI projects have included the building of a web-based tool to facilitate renewable energy project development, developing a renewable energy financial roadmap and a strategy for a climate neutral APEC city, and assessing renewable energy training and accreditation needs for the APEC region.

4.5.3 EWG Members considered the issue of renewable energy financing at a workshop in May 2004. The recommendations of that workshop are included in the energy investment report ([Annex 6](#)).

4.6 Hydrogen

4.6.1 The ESI, through the Action Plan to Enhance Energy Security, identifies hydrogen as having significant potential to help member economies diversify their energy mix.

4.6.2 In considering how the EWG could tap into this potential, the United States hosted a workshop on 29-31 March 2004 to develop an Interim Framework Document on hydrogen and fuel cell technologies. The Framework Document identifies activities currently being undertaken in the APEC region, highlights obstacles and areas of opportunity, and considers the potential for cooperation in areas such as capacity building and codes and standards ([Annex 9](#)).

4.6.3 A project to develop to Develop a Sourcebook of Hydrogen Codes and Standards for APEC Member Economies commenced in early 2004.

4.7 Methane Hydrates

4.7.1 The ESI, through the APEC Action Plan to Enhance Energy Security, states that “potential natural gas resources from methane hydrates represent double the energy of all other fossil fuels combined”.

4.7.2 To explore the potential of methane hydrates as an energy source in the APEC region, the United States presented a tutorial on methane hydrates to EWG Members in March 2004. Members agreed that an ad hoc group should be formed to monitor and report on the research activities of member economies and other international fora in this area and will later consider whether the EWG should participate in the Methane Hydrate International Research Consortium.

4.8 Clean Fossil Energy

4.8.1 Through the Expert Group on Clean Fossil Energy, the EWG has undertaken a number of activities since EMM5 to facilitate clean fossil energy. This includes projects on clean transportation fuels, reducing carbon dioxide emissions from electricity generation and the upgrading and refurbishment of older coal-fired power stations.

4.8.2 The EWG recognises that the capture and geological sequestration of carbon dioxide represents one option for reducing greenhouse gas emissions and enhancing the sustainability of energy production and use. The EWG is currently undertaking projects to identify potential geological storage sites in the APEC region and build the capacity of member economies to undertake geo-sequestration activities.

4.9 Sustainable Mining

4.9.1 Through the Expert Group on Minerals and Energy Exploration and Development (GEMEED), the EWG has been active in coordinating and promoting energy exploration and issues affecting the minerals sector within the APEC region. For example, since EMM5 GEMEED has developed an APEC database on minerals and energy data, undertaken a survey of factors influencing demand for minerals and metals, and established an Experts Network to serve as a key information resource for government and industry.

4.9.2 This work, and other analytical and policy support provided by GEMEED, is serving as an important basis for the Meeting of APEC Ministers Responsible for Mining, to be hosted by Chile on 15-17 June 2004.

4.10 Energy Education

4.10.1 In responding to the direction of Ministers, Japan has led efforts to promote energy education through the Energy Literacy Initiative (ELI). Several member economies have become partners to the ELI and, following their first meeting in Thailand in March 2003, have shared information on education programs implemented within their economies and are exploring further activities to promote energy education within the APEC region.

4.11 Cooperation for a Sustainable Future: Energy Security and Sustainable Development

4.11.1 The ESI recognises the essential link between energy security and sustainable development.

4.11.2 At EMM5, Ministers welcomed the EWG proposal to showcase its contribution to sustainable development through the case study report *Energy for Sustainable Development: The Contribution and Role of the APEC Energy Working Group*. Ministers agreed that the World Summit on Sustainable Development (WSSD) would be an opportunity to demonstrate to a global audience how voluntary regional partnerships can be utilised to achieve sustainable development objectives. Ministers directed the EWG, through Australia and Mexico, to forward the report to the WSSD for its consideration.

4.11.3 *Energy for Sustainable Development* was submitted to the WSSD as a Type II Partnership Initiative in September 2002. Such Initiatives are voluntary in nature and are expected to complement the negotiated outcomes of the WSSD, offering a concrete commitment to implement the goals enshrined in Agenda 21, the Millennium Declaration and the WSSD action programme ([Annex 10](#)).

4.11.4 *Energy for Sustainable Development* highlights the strong relationship between the EWG work program and sustainable development, and sets out four objectives: strengthening the security and reliability of affordable energy to all within the APEC community; promoting clean and efficient technologies and the efficient use of energy to achieve both economic gains and environmental enhancement; achieving environmental improvement of energy production, use and mineral extraction within the APEC community; and harnessing all expertise available to the EWG to give effect to its sustainable development objectives.

4.11.5 Since September 2002, the EWG, its Expert Groups and the EBN have continued to implement a wide range of activities that contribute to the objectives of the *Energy for Sustainable Development*. Through these efforts, the EWG is working to achieve practical outcomes that will help secure a sustainable energy future for all within the APEC community.

5 CONCLUSION

5.1 The EWG has comprehensively responded to the directions given by Ministers at EMM5 and made significant progress towards achieving the objectives embodied in the APEC Energy Security Initiative. However, the EWG recognises that the energy security challenge in the APEC region is constantly evolving and that the EWG must continue to build upon these efforts over the next two years and beyond.

5.2 In recognising these achievements and the challenge ahead, Ministers are invited to consider further directions which will guide the EWG as it seeks to achieve its objective of 'Energy Security in APEC: Cooperation for a Sustainable Future'.

Annexes

Annex 1: APEC ENERGY SECURITY INITIATIVE

Annex 2: APEC ENERGY SECURITY INITIATIVE IMPLEMENTATION PLAN

Annex 3: APEC ACTION PLAN TO ENHANCE ENERGY SECURITY

Annex 4: APERC MEDIUM-TERM STRATEGIC PLAN

Annex 5: BEST PRACTICE PRINCIPLES FOR THE ESTABLISHMENT AND MANAGEMENT OF STRATEGIC OIL STOCKS

Annex 6: ENERGY INVESTMENT REPORT: FACILITATING ENERGY INVESTMENT IN THE APEC REGION

Annex 7: FACILITATING THE DEVELOPMENT OF LIQUEFIED NATURAL GAS (LNG) TRADE IN THE APEC REGION

Annex 8: FRAMEWORK DOCUMENT: THE ROLE OF NUCLEAR POWER IN THE ENERGY DEVELOPMENT OF THE APEC REGION

Annex 9: INTERIM FRAMEWORK DOCUMENT ON HYDROGEN AND FUEL CELLS (SUMMARY)

Annex 10: WSSD TYPE II PARTNERSHIP INITIATIVE ‘ENERGY FOR SUSTAINABLE DEVELOPMENT: THE CONTRIBUTION AND ROLE OF THE APEC ENERGY WORKING GROUP’