



Asia-Pacific Partnership on Clean Development and Climate

*Inaugural Ministerial Meeting
Sydney, 11-12 January 2006*

Work Plan

The Partnership Work Plan sets out an innovative approach of using government/industry Task Forces to develop sustainable solutions to our shared challenges through bottom-up practical action. This recognises that harnessing the power of our private sectors, our research communities and our governments is the most effective way to drive sustainable development outcomes across Partners' economies. We will bring together key experts and leaders focusing on these issues from the public, private and research sectors of our economies. We will also share experiences on related issues, for example, on workplace safety and technologies that help ensure the health and well-being of our peoples.

Our Work Plan focuses on power generation and distribution, as well as key industry sectors of our economies.

We have jointly established eight public-private sector Task Forces covering: (1) cleaner fossil energy; (2) renewable energy and distributed generation; (3) power generation and transmission; (4) steel; (5) aluminium; (6) cement; (7) coal mining; and (8) buildings and appliances.

As a priority, each Task Force will formulate detailed action plans outlining both immediate and medium-term specific actions, including possible "flagship" projects and relevant indicators of progress. These will be submitted to the Policy and Implementation Committee for consideration as soon as practicable – if possible, by mid-2006.

In particular, we have asked the Task Forces to consider in their work the following:

- review the current status of their sector with regard to clean development and climate;
- share knowledge, experience and good practice examples of how industrial efficiency, energy efficiency and environmental outcomes can be improved, including through valuable and practical short-term actions;
- identify specific opportunities for cooperation including with relevant international financial organisations such as the Asian Development Bank and the World Bank;
- define the current state of the technology in terms of cost, performance, market share and barriers;



- identify cost and performance objectives and the actions needed to achieve these objectives; and
- identify, wherever possible, ambitious and realistic goals.

In progressing its work, each Task Force will build on the wide range of actions already in place in Partners through national programmes and other international cooperative arrangements and, where appropriate, seek to leverage existing initiatives to ensure maximum return on our resources. Projects and actions advancing technology and improving best practices in each Partner may also be linked, where useful, with others in the region, allowing us to share lessons across the Partnership.

It is anticipated that actions may include technology based research, pilot, demonstration and deployment projects, skills enhancement and exchange, commercial and information exchanges (for example industry-oriented workshops, high level policy dialogue) and measures to disseminate best practice.

In the first stage of the Partnership we chose to focus on a number of specific areas. The Vision Statement detailed a rich array of other sectors, such as transport and agriculture, where we will explore co-operation as the Partnership develops. We envisage that future meetings will address other sectors of interest, cross-cutting matters, as well as to provide a forum for sharing experiences in developing and implementing our national sustainable development and energy strategies.

Cleaner Fossil Energy Task Force

Chair: Australia

Co-chair: China

Coal and gas are, and will remain, critical fuels for all six Partner economies. There are a range of key advanced coal and gas technologies with the potential to significantly reduce greenhouse gas emissions levels, air-borne pollutants and other environmental impacts. These are focused on a suite of technologies associated with CO₂ capture and storage, as well as complementary advanced power generation systems. These include integrated gasification combined cycle (IGCC), oxy-fuel and post-combustion capture. Other technologies such as ultrasupercritical pulverised fuel, coal cleaning and treatment, poly-generation, hydrogen production, enhanced coal bed and waste coal mine methane and coal gasification and liquefaction are also important elements of a cleaner fossil energy future.

It is well understood that the costs of new technologies decline over time and a key objective for the Partnership is to accelerate the development and deployment of these technologies through collaborative research and on-going demonstration so as to reduce costs and facilitate the availability of a broad range of accessible and affordable low-emission technologies. Opportunities exist for integrating key technologies to achieve lower- or zero-emitting power production facilities.



In addition, there is a need to identify and address barriers to the delivery of liquefied natural gas, which is also needed to meet the rapidly growing need for high quality, affordable and low emission fuel in Asia-Pacific Partnership countries.

Objectives

- Build on the range of existing national (and other international) measures and initiatives to develop an Asia-Pacific Partnership cleaner fossil energy technology development program.
- Identify the potential for, and encourage uptake of, CO₂ geosequestration opportunities in Partnership countries.
- Further develop coal bed and waste coal mine methane gas and LNG/natural gas opportunities and markets in the Asia-Pacific region.
- Build the research and development base, and the market and institutional foundations of Partners through technology supporting initiatives, such as education, training and skills transfer.

Renewable Energy and Distributed Generation Task Force

Chair: Republic of Korea

Co-chair: Australia

Renewable energy technologies, such as hydro (large and mini), solar, geothermal, wind and tidal can deliver power with virtually zero emissions. Distributed generation (including landfill waste methane-based generation) also has the potential to significantly reduce emissions and promote greater cost and network efficiencies. The wide scale deployment of renewable energy and distributed generation technologies increases the diversity of energy supply, and can contribute to improving energy security and reducing fuel risks, particularly in remote and fringe-of-grid areas. These energy sources and distributed generation technologies, which are ideally suited to mid-sized and smaller scale applications can also assist in alleviating poverty by improving access to energy services, as well as increasing job opportunities and improving air quality and public health.

The emerging nature of many renewable energy technologies means that there can be market and technical impediments to their uptake, such as cost-competitiveness, awareness of technology options, intermittency and the need for electricity storage. Work is currently being undertaken by many members of the Partnership to address these barriers to increase the wide-scale uptake of renewable energy. However, advances in technology design, system planning and grid operations are demonstrating the financial viability of distributed utility applications. In addition, alternative fuels, such as biodiesel and ethanol, also can potentially offer significant environmental benefits in the future. Similarly these alternatives are also on the pathway to becoming cost-competitive and for deployment on a large-scale. The Task Force will focus on the most promising technologies and applications, particularly rural, remote and peri-urban



applications, where renewable energy and distributed generation applications can be cost competitive.

Objectives

- Facilitate the demonstration and deployment of renewable energy and distributed generation technologies in Partnership countries.
- Identify country development needs and the opportunities to deploy renewable energy and distributed generation technologies, systems and practices, and the enabling environments needed to support wide-spread deployment, including in rural, remote and peri-urban applications.
- Enumerate financial and engineering benefits of distributed energy systems that contribute to the economic development and climate goals of the Partnership.
- Promote further collaboration between Partnership members on research, development and implementation of renewable energy technologies including supporting measures such as renewable resource identification, wind forecasting and energy storage technologies.
- Support cooperative projects to deploy renewable and distributed generation technologies to support rural and peri-urban economic development and poverty alleviation.
- Identify potential projects that would enable Partners to assess the applicability of renewable energy and distributed generation to their specific requirements.

Power Generation and Transmission Task Force

Chair: United States of America

Co-chair: China

Stable and affordable supply of electricity is indispensable for our economic growth. With the advent of electricity becoming available to a large number of people in developing countries and the increasing electrification in developed countries the power generation sector is and will continue to be the largest emitter of emissions. Modelling indicates that accelerated adoption of world-best practice for thermal power generation alone would reduce global emissions by 1.5 per cent by 2010 as well as reducing air pollution. Potential areas for cooperation in the power sector would include the improvement of thermal efficiency of power plants, fuel switching and/or multi-firing, reform of electricity markets, loss reduction in transmission, and demand side management.

Objectives

- Assess opportunities for practical actions to develop and deploy power generation, transmission and demand side management technologies that can aid development and climate concerns.
- Facilitate demonstration and deployment of practices, technologies and processes to improve efficiency of power production and transmission within Partnership countries.



- Enhance collaboration between Partners on research and development of such technologies and processes.
- Enhance synergy with relevant objectives of other Task Forces (i.e. Cleaner Fossil Energy, Renewable Energy and Distributed Generation, Buildings and Appliances).
- Identify potential projects that would enable Partner countries to assess the applicability of energy feedstocks to their specific requirements.
- Identify opportunities to enhance investment in efficient power supply by improving energy markets and investment climate.

Steel Task Force

Chair: Japan

Co-chair: India

Asia-Pacific Partners account for nearly 50 per cent of the world's steel production. The Steel Task Force will facilitate the uptake of best available technology, practices and environmental management systems in Partnership countries together with increased recycling. The Task Force will assist in the provision of expert advice in relation to the opportunities to reduce greenhouse gas and other emissions levels through the introduction of existing and emerging technologies and identify any other opportunities, with an initial focus on operations in China and India. Action will focus around securing improved benchmarking and reporting, energy and material efficiencies and technology development and deployment.

Objectives

- Develop sector relevant benchmark and performance indicators.
- Facilitate the deployment of best practice steel technologies.
- Increase collaboration between relevant Partnership country government, research and industry steel-related institutions.
- Develop processes to reduce energy usage, air pollution and greenhouse gas emissions from steel production.
- Increase recycling across the Partnership.

Aluminium Task Force

Chair: Australia

Co-chair: United States

Asia-Pacific Partners account for 37 per cent of the world's aluminium production. The aluminium industry is one of the fastest growing sectors, with rapid growth in developing countries.



The industry can make further improvements in environmental performance, while reducing costs, through best practice use of existing equipment (in particular perfluorocarbons (PFC) emissions management), increased uptake of best available and affordable technology (including improved instrumentation), the continued development and deployment of new technologies, and by increasing levels of recycling. Through the Partnership, countries can advance industries towards global PFC reduction objectives and address energy efficiency and other CO₂ process emissions by promoting best practice performance, increasing technical support and identifying impediments to deployment of best available and affordable technology.

Objectives

- Enhance current aluminium production processes through uptake of best - practice use of existing equipment.
- Advance the development and deployment of new best practice aluminium production process and technologies across Partnership economies.
- Enhance sector-related data, including recycling and performance.
- Facilitate increased aluminium recycling rates across the Partnership.

Cement Task Force

Chair: Japan

Asia-Pacific Partners account for 61 per cent of the world's cement production. The cement Task Force would facilitate the uptake of best available technology and environmental management systems in Partnership countries. This would be through the introduction and/or replacement of old technology (primarily the wet kiln process) in favour of dry processing technologies, energy efficient technologies, process improvements, power generation from waste heat recovery and enhanced co- processing of low grade primary fuels and industry wastes. The Task Force will assist in the provision of expert advice in relation to the opportunities to reduce greenhouse gas and other emissions levels through the introduction of these existing and emerging technologies and identify other key opportunities.

Objectives

- Facilitate demonstration and deployment of energy-efficient and cleaner product formulation technologies in Partnership countries that will significantly improve the greenhouse gas emissions intensity and the air pollutant emissions intensity of cement operations.
- Develop sector relevant benchmark and performance indicators.
- Take advantage of opportunities to build infrastructure in developing countries and emerging economies that uses energy efficient cement and concrete building and paving materials.



Coal Mining Task Force

Chair: United States of America

Co-chair: India

Asia-Pacific Partners collectively generate approximately 65 per cent of world primary coal production. Coal is the dominant fuel source globally and among the Partners, and its use is expected to continue to grow over the coming decades. Improving the efficiency of the mining and processing of coal and improving the monitoring and control of coal mine methane gas can make a significant contribution to emissions reductions and workplace safety. The Task Force will address the reclamation and rehabilitation of mined lands, runoff, abandoned mines and best safety practice. The Coal Mining Task Force will work collaboratively with the Cleaner Fossil Energy Task Force to ensure that synergies are captured in improving coal processing and developing new coal-based generation technologies.

Objectives

- Facilitate technologies and practices that can improve the economics and efficiencies of mining and processing and continue to improve safety and reduce environmental impacts.
- Establish, as appropriate, efficiency and emissions intensity and mine reclamation objectives based on each nation's circumstances.
- Identify current reclamation activities in each country, as appropriate, and exchange best practice information in reclamation of surface mined lands with a focus on enhanced surface reclamation practices that improve the opportunities for carbon sequestration.

Buildings and Appliances Task Force

Chair: Republic of Korea

Co-chair: United States of America

Reducing our use of energy for buildings and appliances decreases the demand for primary energy and is a key means to deliver better economic performance, increase energy security and reduce greenhouse gas and air pollutant emissions. Partner countries have recognised for some time the importance of cooperating on energy efficiency for buildings and appliances, and have already taken a range of bilateral and other collaborative actions in this area. As the Partners represent a majority of the world's manufacturing capacity for a diverse range of appliances, we have the potential to drive significant regional and global improvements in energy efficiency in this sector. The Partners will demonstrate technologies, enhance and exchange skills relating to energy efficiency auditing, share experiences and policies on best practices with regard to standards and codes, as well as labelling schemes for buildings, building materials and appliances.



Objectives

- Use cooperative mechanisms to support the further uptake of increasingly more energy efficient appliances, recognizing that extensive cooperative action is already occurring between Partner countries.
- Promote best practice and demonstrate technologies and building design principles to increase energy efficiency in building materials and in new and existing buildings.
- Support the integration of appropriate mechanisms to increase the uptake of energy efficient buildings and appliances into broader national efforts that support sustainable development, increase energy security and reduce environmental impacts.
- Systematically identify and respond to the range of barriers that limit the implementation of end-use energy efficiency practices and technologies.

Task Force Administration

The life of a Task Force depends on accomplishment of its objectives, which encompass both short-term and long-term actions. Partners expect to establish jointly other Task Forces in the future to explore other aspects of clean development and climate. The Task Force chairs shall be senior officials from Partnership countries and the membership of each Task Force may be drawn from the public, private and research domains so as to engage key experts.

Task Forces will report to the Policy and Implementation Committee, which will consider the action plans developed and decide which projects to formally endorse as Partnership projects. Each Partner will make its own decisions on its participation in individual projects. The Policy and Implementation Committee may approve Task Force involvement from non-Partner countries where this would enhance the effectiveness of the Task Force work.