TESTIMONY OF

JAMES L. CONNAUGHTON

CHAIRMAN, COUNCIL ON ENVIRONMENTAL QUALITY

EXECUTIVE OFFICE OF THE PRESIDENT

BEFORE THE UNITED STATES SENATE

COMMITTEE ON ENVIRONMENT & PUBLIC WORKS

SEPTEMBER 20, 2006

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INTRODUCTION

Mr. Chairman, I am pleased to testify today on the Asia-Pacific Partnership on Clean Development and Climate (the Partnership), announced last year and launched in January 2006 by President Bush and the leaders of Australia, China, India, Japan and South Korea. This Presidential initiative establishes an innovative public-private collaboration for addressing the interconnected challenges of assuring economic growth and development, poverty eradication, energy security, pollution reduction, and mitigating climate change. The Partnership's six members represent about half the world's economy, population, and energy use. Together they produce about 68 percent of the world's coal, 61 percent of its cement, 50 percent of its net electricity generation, 54 percent of its steel, and 40 percent of its aluminum. Partner countries also emit significant amounts of air pollution and around 50 percent of the world's carbon dioxide emissions from fossil fuels. As I will explain in greater detail below, the Partnership is working initially in eight major sectors to share technologies and practices, open up markets and reduce barriers, to significantly increase investment in the best of today's technologies and accelerate the development and use of the best technologies working their ways through public and private research. We are focused on achieving practical outcomes in the areas of: cleaner and lower carbon emission fossil power technology, renewable and distributed energy systems, power generation and transmission efficiency, steel, aluminum, cement, coal mining, and buildings and appliances.

Mr. Chairman, I would like to thank you, and members of this committee and the Senate, for your broad bipartisan support for the Asia-Pacific Partnership. The Partnership is a key means of

implementing a strong, bi-partisan Senate amendment that became Title XVI of the Energy Policy Act of 2005 (EPAct 2005). The Partnership is consistent with the Clean Energy Technology Exports Initiative (CETE) discussed in the FY'01 Senate Energy and Water Development Appropriations Bill. Many aspects of the CETE initiative are now found in EPAct 2005 and are being implemented through the Partnership. The Partnership targets the kind of fast-growing, middle-income industrializing countries on which EPAct asks us to focus.

The Partnership is a team effort and requires a team budget to administer. Reflecting the Partnership's philosophy of taking an integrated approach, funding for implementing the initiative is spread over four agencies: the Department of State (State), the Department of Energy (DOE), the Environmental Protection Agency (EPA), and the Department of Commerce (DOC). I look forward to using this opportunity to discuss the benefits of the Partnership and the urgent need for Congress to support the President's $52 million fiscal year 2007 budget request, which will help leverage billions of dollars in private and public investment in a more secure, more efficient, cleaner and lower greenhouse gas energy future.

UNITED STATES POLICY OBJECTIVES

The Asia-Pacific Partnership will help bring into the international arena U.S. policy objectives for improved energy security, improved air quality and public health, and reduced greenhouse gas intensity. At the same time, our partners share these objectives and will share with us their complementary national strategies.

Improve Energy Security

In order to improve our nation's energy security, the Administration is focusing on the development and deployment of new, clean technologies to reduce our reliance on foreign sources of energy and, ultimately, to diversify away from a hydrocarbon society. The Administration is implementing policies to advance these objectives in both the power generation and transportation sectors.

Electricity Generation

To secure our long term electric power generation needs, we are working to strengthen and increase the availability of domestic sources -- abundant renewable energy, clean coal, and emission-free nuclear power, as well as what I would describe as our massive "reserves" of energy efficiency and conservation. We are implementing and developing policies that ensure current and future energy supplies will meet our more stringent requirements for air quality improvement and the need for greenhouse gas mitigation.

Advanced Energy Initiative. In his State of the Union Address this year, the President announced his new Advanced Energy Initiative (AEI). The AEI includes programs promoting the use of technologies that reduce oil use by improving efficiency, expansion of alternative fuels from homegrown biomass, and development of fuel cells that use hydrogen from domestic feedstocks; and programs to change the way we power our homes and businesses, such as addressing the high costs of natural gas and electricity by generating more electricity from clean coal, advanced nuclear power, and renewable resources such as solar and wind.

One of the core objectives of the AEI is to change how we power our homes and offices through increased investment in revolutionary solar and wind technologies. To fulfill solar energy's promise, the President proposed a new Solar America Initiative. The Solar America Initiative will accelerate the development of advanced photovoltaic (PV) materials that convert sunlight directly to electricity, with the goal of making solar PV cost-competitive with conventionally generated electricity such as coal and nuclear by 2015. As the per-unit cost for these advanced PV technologies falls, sales volume will go up, driving innovation and further cost reductions. Globally, attempts to bring electricity to the developing world will frequently employ solar PV as an alternative.

Wind energy is one of the world's fastest-growing energy technologies. In 2005, the U.S. wind energy industry installed more than 2,300 megawatts (MW) of new wind energy capacity – or over $3 billion worth of new generating equipment – in 22 states. That capacity is roughly equivalent to four typical coal power plants. Areas with good wind resources have the potential to supply up to 20% of the electricity consumption of the U.S.

To expand the generation of clean energy from wind, the President has committed to advance the use of wind technology. We are working to help improve the efficiency and lower the costs of conventional wind turbine technologies, and help develop new small-scale wind technologies for use in low-speed wind environments. Combined with the ongoing efforts to expand access to Federal lands for wind energy development, our efforts could help dramatically increase the use of wind energy in the U.S.

EPAct 2005 provides a number of tools to help assure that renewable energy will become a viable, affordable source of energy to power our homes, businesses, and industries. A few of the most significant provisions deal with tax credits and research and development. The Renewable Electricity Production Credit (REPC) is a 1.5 cent per kilowatt-hour tax credit with a multi year extension that may last for up to 10 years. This credit is adjusted annually for inflation. Qualifying electricity generating resources includes wind, open-loop and closed-loop biomass, geothermal energy, small irrigation power (150 kW - 5 MW), municipal solid waste, landfill gas, and hydropower.

EPAct 2005 also establishes a 30% tax credit up to $2,000 for the purchase and installation of residential photovoltaic (solar electric) and solar water heating property. An individual can take both of these credits for a total of up to $4,000. A 30% tax credit up to $500 per 0.5 kW is also available for fuels cells.

Another important EPAct initiative is the Renewable Energy Production Incentive (REPI). REPI provides financial incentive payments for electricity produced and sold by new qualifying renewable energy generation facilities that are not eligible for tax credits. Qualifying facilities include publicly owned utilities, not-for-profit electric cooperatives, and tribal entities that produce electricity from renewable sources. These facilities are eligible for annual incentive payments of 1.5 cents per kilowatt-hour for the first ten year period of their operation, subject to the availability of annual appropriations in each Federal fiscal year of operation.

Recognizing that additional research and development is still critical to improve the market penetration of renewable power generation, EPAct authorized $2.2 billion for renewable energy sources including hydro, wind, geothermal, and solar.

Complementing these incentives for renewable energy, EPAct provided for loan guarantees to spur investments in projects employing renewable technologies. Secretary Bodman recently unveiled DOE's guidelines for the loan guarantee program which included providing for leveraged funding opportunities up to $2 billion dollars.

Clean Coal. The U.S. has vast coal reserves and about half of its electricity is generated from this fuel. Because coal has great potential to provide domestically secure, cost-efficient electricity, advanced coal-based power generation is vital to energy security while meeting air quality needs and setting a foundation for greenhouse gas mitigation. The goal of the Coal Research Initiative (CRI) is to remove technological market obstacles and produce public benefits by conducting research, development, and demonstration of coal-related technologies that will improve coal's competitiveness in future energy supply markets. As part of the CRI, the Clean Coal Power Initiative (CCPI) is a cost-shared program between the government and industry to demonstrate emerging technologies in coal-based power generation, thus accelerating their path to commercialization. The FutureGen project, also a part of CRI, is a 10 year, $1 billon government-industry effort to design, build, and operate the world's first near-zero atmospheric emission coal-fired power plant. This project, which cuts across many areas, will incorporate the latest technologies in carbon sequestration, oxygen and hydrogen separation membranes, turbines, fuel cells, and coal gasification. The governments of India and South Korea have recently committed to join and contribute financially to FutureGen. The FutureGen Alliance also includes Chinese and Australian companies contributing to the private sector cost-share. As an important complement to this effort, we are aggressively pursuing the promise of cost-effective techniques for CO_2 sequestration through the Carbon Sequestration Leadership Forum, comprising 21 countries and the European Commission. Ten projects have been recognized by the Forum, including four with U.S. participation. The U.S. also leads the Regional Carbon Sequestration Partnerships project, which began in September 2003, and is a broad-based

collaboration of industry and the research community to help identify and test the most promising opportunities for implementing sequestration technologies in the U.S. and Canada.

Nuclear Power. Nuclear power provides an abundant, affordable, clean, and safe source of energy. The U.S. has 103 commercial nuclear power plants operating in 31 states. Nuclear power plants supply approximately 20 percent of America's electricity. The clean air benefits of nuclear energy are enormous. Last year, the domestic use of nuclear energy prevented the release of up to 3 million tons of sulfur dioxide and 1 million tons of nitrogen oxide. The use of nuclear power has also avoided the emission of 700 million tons of carbon dioxide per year, an amount nearly equal to the annual emissions from 136 million passenger cars.

While nuclear plants have had dramatic increases in their efficiency, offsetting the need to build several new plants fueled by other sources, no U.S. power company has constructed a nuclear plant in about 30 years. However, nuclear energy is making a resurgence. In the past year about 12 companies have expressed an interest in building new plants.

The EPAct 2005 included a number of nuclear related provisions that address both existing nuclear energy facilities and set the stage for a nuclear renaissance. EPAct 2005 was successful in giving the Nuclear Regulatory Commission the tools it will need to meet its challenges as we look to them to permit new nuclear facilities. EPAct also provided additional incentives such as loan guarantees, production tax credits and federal risk insurance for the builders of new plants. This new law also addresses the issue of security at our commercial nuclear facilities, giving the public the confidence that these sites are well protected. Mr. Chairman, I want to congratulate you and the full EPW Committee on your action to pass many of these important nuclear provisions.

The Nuclear Power 2010 program is focused on reducing the technical, regulatory and institutional barriers to deployment of new nuclear power plants based on expert recommendations. The Nuclear Power 2010 Program is designed to work with the nuclear industry in a cost-shared arrangement to establish a market-driven, public-private effort to address the technical, regulatory and institutional challenges to new plant construction. The

program's basic missions are to demonstrate the new Nuclear Regulatory Commission licensing processes, identify suitable sites for new plants, and certify state-of- the-art (or "Generation III+") designs for new nuclear power plants. The goal of the Nuclear Power 2010 program is to facilitate an industry decision to build and operate at least one new advanced light-water reactor plant in the U.S. early in the next decade.

We are also committed to more effective international cooperation, which will produce strong benefits here at home. The Global Nuclear Energy Partnership (GNEP) seeks to develop worldwide consensus on enabling expanded use of economical, emission-free nuclear energy to meet growing electricity demand. By working with other nations under the Global Nuclear Energy Partnership, we can provide the less expensive, safe, clean energy that growing economies need, while ensuring nuclear nonproliferation. America will work with nations that have advanced civilian nuclear energy programs. GNEP will use new technologies that effectively and safely recycle spent nuclear fuel. Re-processing spent nuclear fuel for use in advanced reactors has the potential to significantly reduce storage requirements for nuclear waste. It will also allow us to extract more energy from fissile materials in spent fuel that would otherwise be sent directly to a geologic repository. Through our partnership, we can help developing countries meet their growing energy needs by providing them with small-scale reactors that will be secure and cost-effective. We will also help ensure that developing nations have a reliable nuclear fuel supply. In exchange, these countries would agree to use nuclear power only for civilian purposes and forego uranium enrichment and reprocessing activities that can be used to develop nuclear weapons.

Vehicles

We are also working to improve the way we power our transportation through improvements in vehicle fuel economy, greater availability and use of current and next generation renewable fuels, and ultimately through zero-emission hydrogen.

Corporate Average Fuel Economy (CAFE). Since 2003, the Bush Administration has finalized two sets of Corporate Average Fuel Economy (CAFE) regulations requiring a combined 15 percent increase in the fuel economy of light trucks, including for the first time, large and very

heavy Sport Utility Vehicles, such as the Hummer H2. The Administration's latest CAFE regulation reforms the structure of the program and implements improvements recommended by the National Research Council of the National Academy of Sciences that will not only help save fuel, but also lives and American jobs. These actions are projected to save more than 14 billion gallons of gasoline over the lifetime of these trucks, and correspondingly avoid over 100 million metric tons of carbon dioxide emissions. The President has strongly urged Congress to give us authority to establish new rules on passenger car fuel economy based on these concepts.

Tax Incentives for Efficient Vehicles. The President proposed, and Congress enacted, tax incentives of up to $3,400 per vehicle to encourage purchase of highly efficient hybrid and clean diesel vehicles, which offer near-term potential to reduce demand for fuels made from crude oil. The President has called on Congress to reconsider certain limitations that EPAct placed on the availability of these tax credits to allow for their broadest use.

Renewable Ethanol and Biodiesel. Biofuels can be produced either by the conversion of sugar, starch, or cellulosic feedstocks to ethanol, or by conversion of animal fats or soybean or other plant oils to produce biodiesel. These clean-burning fuels are currently either mixed with gasoline or diesel fuel in small amounts (up to 10% for ethanol and up to 20% for biodiesel) and used in conventional vehicles to help reduce petroleum demand, or in the case of ethanol, blended in larger amounts (up to 85% ethanol to make E85 fuel) and used in specifically-designed flexible-fuel vehicles (FFVs). In 2005, the 4 billion gallons of ethanol blended into gasoline amounted to about 3% by volume of all gasoline sold in the United States.

The EPAct 2005 established a renewable fuels standard to require the use of 7.5 billion gallons of renewable fuels such as ethanol and biodiesel by 2012. Because of higher crude oil prices, producer tax incentives, and the phasing out of MTBE, however, we are likely to exceed the EPAct's target by a significant margin. The EIA projects renewable demand in 2012 of 9.6 billion gallons for ethanol and 300 million gallons for biodiesel, assuming crude oil prices forecast at $47 per barrel.

Alternative Fuel Facilities. The EPAct 2005 also provides a 30% tax credit for installation of alternative fuel stations, up to a maximum of $30,000 per year. Currently only about 700 public "E85" (85% ethanol) fueling stations exist in the U.S. The increased availability of E85 will mean that more FFVs can use ethanol. Of the approximate five million FFVs on our roads today, most are currently fueled with conventional gasoline rather than E85, in part due to the limited availability of E85.

Cellulosic/Ethanol. The President's goal is to make cellulosic ethanol cost-competitive by 2012, enabling greater use of this alternative fuel to help reduce future U.S. oil consumption. Virtually all domestically produced ethanol currently comes from corn. However, corn and other starches and sugars are only a small fraction of biomass that can be used to make ethanol. A recent DOE/USDA study, using aggressive technology and land use assumptions, suggests that the U.S. could produce or harvest biomass resources capable of being converted into 60 billion gallons of biofuels per year - 30% of current U.S. gasoline consumption – in an environmentally responsible manner without affecting future food production. Although the study does not consider cost and sustainability, it provides an estimate of our significant biomass resource potential. To achieve greater use of "homegrown" renewable fuels, we will need advanced technologies that will allow competitively priced ethanol to be made from cellulosic biomass, such as agricultural and forestry residues, material in municipal solid waste, trees, and grasses. Advanced technology can break those cellulosic materials down into their component sugars and then ferment them to make fuel ethanol. To help reduce the costs of producing these advanced biofuels and ready these technologies for commercialization, the President's 2007 budget request increases DOE's biomass applied research funding by 65%, to a total of $150 million. In accordance with Section 932(d) of the EPAct, a Funding Opportunity Announcement was made by Secretary Bodman on February 22, 2006 for the commercial demonstration of integrated biorefineries. Total amount of these multi-year awards is $160 million (not including 60% cost-share). The projects are currently in the review process with notification of 2-4 winners anticipated late in 2006.

Hydrogen Fuel Initiative. In his 2003 State of the Union Address, President Bush launched the Hydrogen Fuel Initiative, which seeks to work in partnership with the private sector to accelerate

the research and development required for a hydrogen economy. The President's Hydrogen Fuel Initiative and the FreedomCAR Partnership combined are providing nearly $1.7 billion over five years, from fiscal year 2004 to 2008, to develop hydrogen-powered fuel cells, hydrogen infrastructure technologies, and advanced automobile technologies. The President's Initiative will enable the commercialization of fuel cell vehicles in the 2020 timeframe. Through this initiative, the cost of a fuel cell has been cut in half, and the expected life of an automotive fuel cell has been doubled since 2003. I have driven several prototypes of such vehicles. Private sector interest and investment remains high.

Improve Air Quality and Public Health

Air pollution in the U.S. has declined by 53% since 1970. During the same time period, the economy increased by 195%, energy use increased by 48% and the population increased by 42%. Between 2000 and 2005 alone, U.S. air pollution declined by 12%. The success of declining emissions as the economy grows is due, in part, to the remarkable progress American innovators have had in developing and deploying emission control and efficiency technologies and practices. The President's clean air initiatives are designed to build on and significantly accelerate this progress, in both the power generation and transportation sectors.

Cleaner Power Generation – Both Old and New. The Clean Air Interstate Rule (CAIR) will require power plants in the eastern part of the U.S. to cut their emissions of sulfur-dioxide, nitrogen oxide and, for the first time, mercury by nearly 70 percent. Coupled with EPA's rule to decrease emissions from heavy-duty on-highway and non-road diesel engines, and other existing state and federal control programs, CAIR will help bring most of the country into attainment with more stringent ozone and PM2.5 air quality standards. Attainment of the standards will provide room for economic growth as manufacturers seek permits to expand their operations and to build new facilities. The broadly distributed and relatively minimal impact these regulations will have on natural gas, coal and electricity prices will also provide economic advantage by achieving the environmental benefits in the most cost effective manner. By providing a clear, long-term, market-based regulatory framework, CAIR will help improve stability of electricity prices for consumers and manufacturers.

The President's Clear Skies legislation would improve on these outcomes by expanding the power plant controls under CAIR nationwide. Clear Skies would cap emissions from more than 1,300 power plants nationwide, reducing pollution by as much as 9 million tons annually at full implementation. Utilities will achieve this by spending more than $52 billion to install, operate and maintain new, primarily clean coal pollution abatement technology on both old and new power plants. The Clear Skies legislated cap-and-trade program, using the same mechanism as the highly successful Acid Rain Trading Program, will require only a few dozen government officials to operate and will assure almost 100% compliance through a system that is easy to monitor and easy to enforce.

Cleaner Transportation. The Administration is also implementing new rules regulating emissions from both highway and non-road diesel engines and fuels. The Ultra Low Sulfur Diesel rule will go into effect nationwide in October. This rule will dramatically reduce emissions from both highway and non-road diesel engines by more than 90%. Removing the sulfur from the fuel, paves the way for the Administration's new rules cutting nitrogen-oxide and particulate matter (PM) emissions by 90-95% from the diesel engines on new heavy duty trucks, school buses, and non-road vehicles such as construction and farm equipment, and ultimately certain ships and locomotives. This program will also reduce non-methane hydrocarbons (NMHC), sulfur dioxide (SO_2), carbon monoxide (CO) and air toxics emissions. These new rules are the result of an EPA-led collaborative process that had wide support from industry — fuel refiners and distributors, engine and equipment manufacturers — environmental groups and other stakeholders. Together these rules will make that familiar "black puff of smoke" a thing of the past.

The technological breakthrough of a new generation of clean diesel fuels and engines opens up a dramatic new opportunity for fuel savings and greenhouse gas reductions in the high volume and turnover market of passenger cars and light duty vehicles. In part because of stringent tailpipe pollution standards, only a very small percentage of passenger cars, SUVs, delivery vans and pickup trucks are diesel. By contrast, in Europe, with less stringent tailpipe standards and higher gasoline prices, the percentage of diesel passenger and light duty vehicles is quite high. With the availability of new diesels than can meet our new clean air standards, even a modest

increase in the diesel fleet percentage can produce enormous savings. Clean diesel engines reportedly are about 25 to 35 percent more fuel efficient than gasoline engines. These gains are achieved throughout the driving cycle, in contrast with hybrids which produce their gains primarily in city driving. Clean diesel engines also substantially reduce the amount of CO_2 per mile traveled. At the same time, clean diesels offer greater performance (especially pulling heavier loads), lower maintenance costs, longer engine life, and the capability to use biodiesel, a fuel that can be produced from a wide variety of biomass sources, without losing as much of the fuel economy benefit as ethanol does. That is why DOE has helped initiate an accelerated process to establish national and international bio-diesel fuel standards, which should further enable the design of high-performing and reliable clean diesel engines for both the U.S. market and global market.

Reduce Greenhouse Gas Intensity

Our Climate Approach. The President is firmly committed to taking sensible action on climate change – at home and abroad. Climate change is a serious, long-term challenge that requires an effective, sustainable policy. The Administration's climate change policy is science-based, encourages research that leads to technological innovation that is cleaner and more efficient, and takes advantage of the power of markets to bring those breakthrough technologies into widespread use. Our inclusive strategy brings all stakeholders to the table and encourages meaningful global participation through actions that will reduce greenhouse gas emissions, improve energy security and cut air pollution that is harmful to human health and natural resources while ensuring continued economic growth and prosperity for our citizens and for citizens throughout the world. Economic growth enables investment in the technologies and practices we need to burn our vast reserves of coal more cleanly and efficiently and reduce our dependence on imported fossil fuels.

Progress Toward the President's Goal. The President has set an ambitious target of cutting our greenhouse gas intensity by 18 percent through the year 2012. When announced, this commitment was estimated to achieve about 100 million additional metric tons of reduced carbon-equivalent emissions in 2012, with more than 500 million metric tons of carbon-equivalent emissions in cumulative savings over the decade. Our objective is to significantly

slow the growth of greenhouse gas emissions and, as the science justifies, stop it and then reverse it. While measuring progress in absolute terms is important, the most useful measure for policy management purposes is the relative improvement in greenhouse gas emissions intensity – a point that our Asia-Pacific Partners recognize. The intensity measure appropriately recognizes reductions that are achieved through increased investment in efficiency, productivity and economically valuable outcomes that require less energy or otherwise lead to lower emissions. The intensity measure sharply discounts reductions produced by economic decline, job loss, or policies that simply shift greenhouse gas emitting activity from the U.S. to another country – in which case the desired emissions reduction did not actually happen.

To meet help our intensity target, further our understanding of climate science, and help reduce our emissions in the long-term, the Administration has committed more than $29 billion for climate change related activities since 2001, helping fund numerous related to climate change. The President's 2007 Budget includes an additional $6.5 billion for climate change related activities – an increase of 12 percent from the previous year. Because of this aggressive strategy, we are well on our way to meeting our target. According to EPA data reported to the UNFCCC, U.S. greenhouse gas intensity declined by 2 percent in 2003, and by 2.5 percent in 2004.[1] Put another way, from 2003 to 2004, the U.S. economy increased by 4.22% while greenhouse gas emissions increased by only 1.7%. This rate of progress exceeds the progress in most other major developed countries. A June 2006 EIA preliminary estimate of energy-related carbon dioxide emissions — which account for over four fifths of total greenhouse gas emissions — suggests an improvement in carbon dioxide emissions intensity of 3.3 percent in 2005.

Progress in the U.S. compares favorably with progress being made by other countries. *Trends in GHG Emissions: 2000-2004* (Attachment 1) and *Trends in GHG Emissions Intensity: 2000-2004* (Attachment 2) show how emission trends in the U.S. compare to other industrialized countries based on national data reported to the UN Framework Convention on Climate Change. The data

[1] Using a slightly different methodology, the Energy Information Administration estimated improvement in greenhouse gas emission intensity of 1.6% and 2.1% in 2003 and 2004, respectively.

in Attachment 1, which includes countries that have obligations under the Kyoto Protocol, indicate that from 2000 to 2004 the major developed economies of the world are at about the same place in terms of actual GHG emissions. In some countries, emissions are increasing slightly, in others they are decreasing slightly. Contrary to some popular misconceptions, no country is yet able to decrease its emissions massively. Note that the U.S. has seen its actual emissions increase by 1.3%, a lower percentage than the European Union 15 increase of 2.4%.

Trends in GHG Emissions Intensity: 2000-2004 shows progress in emissions intensity for the same countries over the same period. Major industrialized countries are all in the 10 percent range for emissions intensity improvement, showing that these economies, with very sophisticated infrastructure and systems, are in the process of turning over capital stock to more productive and efficient technologies and practices. The ongoing focus is to take actions to help accelerate that turnover to cleaner and more advanced technologies.

Our climate approach includes a broad array of strategies to bring cleaner energy technologies to the market. The Administration is now implementing numerous federal programs – including partnerships, consumer information campaigns, incentives, and mandatory regulations – that are directed at developing and deploying cleaner, more efficient energy technologies, conservation, biological sequestration, geological sequestration and adaptation. The President attaches great importance to creating incentives for our industries, companies, and citizens to take actions that will have a real impact on greenhouse gas emissions. For example, the DOE's Climate VISION program and the EPA's Climate Leaders and SmartWay Transport Partnership programs work in voluntary partnership with specific commitments by industry to verifiably reduce emissions. In terms of incentives, little attention has been paid in the climate change context to the massive benefits of the new, more favorable tax rules on expensing and dividends, which helping to unleash substantial new capital investment, including purchases of cleaner, more efficient equipment and facilities.

ASIA-PACIFIC PARTNERSHIP

Last January, the U.S. and our Asia-Pacific Partners announced that we would be better able to meet our increased energy needs and associated challenges, including those related to energy security, air pollution, and greenhouse gas intensity, by working together. We recognized that it is critical that we cooperate on developing, demonstrating, and implementing cleaner and lower emissions technologies that allow for the continued economic use of fossil fuels while addressing air pollution and greenhouse gas emissions. We are using the Partnership's platform to promote the deployment of promising technologies that offer greater energy efficiency and lower air pollution and greenhouse gas intensities. After reviewing the extensive range of existing national programs and projects our governments are pursuing with regard to clean development and climate, we recognized that together we can pool our resources and meet a range of diverse development and climate objectives simultaneously.

Emerging Economies. The Asia-Pacific Partnership engages key emerging economies, particularly important in the context of climate change, even as they grapple with their more immediately pressing energy security and air quality efforts. The Energy Information Administration (EIA) is predicting that by 2010 energy-related carbon dioxide emissions from non-OECD emerging economies, including India and China, will exceed those produced by the mature OECD market economies of North America, Europe and Asia. By 2030, the EIA estimates that global carbon dioxide emissions will rise 60 percent compared to today's levels, with two-thirds of the increase driven by developing country emissions. (See Attachment 3: *World Carbon Dioxide Emissions by Region: 2003-2030*). These EIA projections are consistent with recent projections from the International Energy Agency. Its World Energy Outlook 2004 suggests that well over two thirds of the projected increase in energy-related carbon dioxide emissions between now and 2030 will be from developing countries. Absent the participation of all major emitters, including developing countries, the UN Framework Convention's ultimate goal of stabilizing greenhouse gas concentrations will remain elusive. By working together, however, EIA projections suggest that reasonably ambitious strategies to improve greenhouse gas intensity can produce meaningful progress in offsetting the accumulation of greenhouse gases. (See Attachment 4: *Carbon Dioxide Intensity Improvement Projections*).

The Asia-Pacific Partnership is a significant breakthrough. A successful international response to climate change requires active and meaningful developing country participation, which includes both near-term efforts to slow the growth in emissions and longer-term efforts to build capacity for future cooperative actions. We need to pursue our international efforts in a spirit of collaboration, not coercion, and with a true sense of partnership. This is especially true in our relations with developing countries, which have an imperative to grow their economies and provide for the welfare of their citizens. Experience has shown these countries to be quite skeptical of climate mitigation approaches that they think will divert them from these fundamental goals. It is also true that many of the largest greenhouse gas emitters are also among our most significant trading partners. They have rapidly advancing – in many cases, world class – industries and considerable technical expertise.

Nationally Defined Outcomes. The Partnership will work within the context of nationally defined outcomes to identify needed methods, technologies, and financial arrangements to assure success. The Asia-Pacific Partners, for example, will share their experiences with China to assist its government, wherever possible, in meeting its commitment to improve its energy intensity by 20 percent and cut its sulfur-dioxide emissions by 10 percent by 2010 from 2005 levels. For our part, we have much to gain from the Partnership as well. For instance, we are learning from Japan, which has a highly-evolved, partnership program of greenhouse gas mitigation goal-setting and implementation involving each of its major emitting sectors. DOE's Climate VISION and EPA's Climate Leaders programs share common elements with the Japanese program, and closer alignment and amplification of these approaches, while ensuring their relevance to each country's national circumstances, will be very valuable.

Industrial and Commercial Private Sector Involvement. The Asia-Pacific Partners recognize that working closely with private sector and other stakeholders is crucial to our success in addressing energy and climate issues. And the private sector has recognized the potential that the Asia-Pacific Partnership brings to their businesses. Senior executive leadership of some our Nation's most successful businesses are actively engaged in the Partnership. Personal time and focus are among the most valuable commodities that a CEO can give any venture. CEOs do not get personally involved unless they believe there is a real potential for tremendous success, and

they are very involved in the Partnership. The fact that several CEOs and other senior executives have made multiple trips to Asia to participate in Partnership meetings strongly demonstrates enthusiastic private sector engagement about the Partnership's value. Success for the private sector translates into energy security, cleaner air and reduced greenhouse emission.

The U.S. Departments of State, Energy, Commerce, the Environmental Protection Agency, and other agencies and financing institutions, such as the Export-Import Bank and Asian Development Bank, are actively discussing ways of ensuring that the private sector is effectively plugged into the Partnership at every stage of its work. Government-to-government discussions held under the auspices of the Partnership bring together economic, energy, and environment ministries which enable the governments to build a more effective and sustainable effort to tackle climate change.

Leveraged Outcomes. The Partnership enables public and private entities to do what they do best. Government to government action is focused on addressing barriers and making it easier to address market opportunities and potential projects. The private sector then delivers on energy efficient pollution and greenhouse gas emissions reduction projects that create jobs in the U.S., a policy preferable to direct subsidies which burden our taxpayers with these expenses. In other words, $50 million dollars of U.S. taxpayer money can be leveraged into billions of dollars of private sector investment instead of just producing one project worth $50 million. What this means in environmental terms is that for the cost of one moderate sized clean energy project, one could see a reduction in emissions from hundreds of new energy efficient projects. We are placing a strong emphasis on identifying opportunities for near-term outcomes that can be "mass-produced" using tried and true technologies and methods.

A recent methane capture agreement in China represents an environmentally conscious and profitable deal. Methane gas is released into mines or the atmosphere during coal mining operations. It can be very hazardous and can contribute to fires and explosions if not properly vented. Methane is also a greenhouse gas over 20 times more potent than carbon dioxide. It can also be used as a clean burning fuel. Methane capture during coal mining operations nets significant benefits in terms of worker safety, reduction of harmful pollution, and mitigation of

greenhouse gas. It is a well-established and highly profitable practice now in place at twenty-one mines in the U.S. In 2003, U.S. mines with methane drainage systems in place produced about 56 billion cubic feet of methane (22.62 $MMTCO_2E$). About 40 billion cubic feet of the drained gas, or 71%, was recovered and utilized for energy. To date, the majority of coal mine methane recovered in the U.S. has been injected into natural gas pipelines. However, with higher energy prices in recent years, other options such as electric power generation for on-site use are becoming more viable. Two power generation projects are currently operating at active U.S. underground coal mines: CONSOL Energy in Virginia (88 MW) and Peabody Coal/NW Fuels Development in West Virginia (1.35 MW).

Under the auspices of the multilateral Methane to Markets Partnership, a precursor to the Asia-Pacific Partnership, Caterpillar and Shanxi Jincheng Anthracite Coal Mining Group Co., Ltd. in China signed a $58 million contract to provide 60 methane-gas-powered generator sets to produce power at a Chinese coal mine. Once complete, this project is expected to be the largest of its kind in the world. Caterpillar will be capturing methane gas, instead of venting it into the atmosphere, and burning it to provide 120 megawatts of electricity to Jincheng City. It is estimated that the project will reduce greenhouse gases by 4.0 million tons of carbon dioxide equivalent over its 20-year lifetime. This is an example of the type of initiative that the Asia-Pacific Partnership is trying to duplicate. The potential number of projects similar to this in other Partner countries is quite high.

STRUCTURE AND TASK FORCES

I will now summarize the Partnership's technical structure, the nature of the results it can produce, and the path forward. This past January, I was privileged to join Energy Secretary Sam Bodman and Under Secretary of State Paula Dobriansky at the first Ministerial meeting of the Partnership in Sydney, Australia. The meeting was hosted by Australian Prime Minister John Howard and chaired by Australian Foreign Minister Alexander Downer. In addition to involving high-ranking government official representation, the meeting also included a substantive dialogue with heads of industrial organizations from each country representing some of the most significant, energy-intensive and emitting sectors.

The Ministers agreed to a Partnership Communiqué, Charter, and Work Plan, which I have attached to my testimony. Concurrently, they established a Policy and Implementation Committee and the Partnership's first set of Task Forces covering actions in eight areas: Cleaner Fossil Energy, Renewable Energy and Distributed Generation, Power Generation and Transmission, Steel, Aluminum, Cement, Coal Mining, and Buildings and Appliances.

The Policy and Implementation Committee (PIC) sets the overall policy direction and outreach strategy for the Partnership. It also serves as the mechanism for introduction of new projects and participants in Partnership. Since the Partnership is heavily reliant upon a "bottom up" approach, the PIC relies on the eight Task Forces as the foundation for its strategic planning.

Each Task Force has a government chair and co-chair (See Attachment 5). Initial details about the objectives and work plans for each Task Force are outlined in the accompanying charts. Each Task Force consists of two senior government officials and two private sector leaders from each country to enable a relatively manageable planning and implementation dialogue of about 24 people per Task Force.

The U.S. is chairing the Policy and Implementation Committee and chairing or co-chairing three of the Task Forces. The U.S. Task Force members include participants from government agencies, major companies, trade associations, and non-profit organizations.

In April of this year, the U.S. hosted the first Task Force working meetings in Berkeley, California. Approximately 300 senior representatives from the public and private sectors attended the nearly week-long event. The eight Task Forces met for two full days and identified actions covering several dozen activities.

All eight Task Forces have drafted Action Plans, documents that describe objectives and initial project ideas. The Policy and Implementation Committee is reviewing the Action Plans now.

The Policy and Implementation Committee is meeting from October 11th to 13th in Jeju, South Korea. Participants will focus on:

- Coordinating the reporting projects in the Task Force Action Plans;
- Developing guidance on a mechanism for introducing new projects to the work program;
- Communicating with and reaching out to the private sector;
- Discussing how to more fully utilize the technology and the internet for project coordination and outreach;
- Recommending "flagship" projects from current lists of projects; and
- Providing an opportunity for participating countries to discuss expanded participation by other Pacific Rim nations.

The eight Asia-Pacific Partnership Task Forces are making progress in advancing the Partnership's goals. In the following paragraphs I summarize each Task Force's goals and objectives, and potential projects. The names of the lead Federal agency or agencies appear next to the Task Force names.

Aluminum (U.S. Co-Chair; DOC, EPA). The Aluminum Task Force seeks to: advance the development and deployment of new aluminum production using "best practice" processes and technologies; enhance sector-related data, including recycling and performance; and facilitate increased aluminum recycling rates across the Partnership economies. The Aluminum Task Force has seven projects outlined in support of these goals.

In its proposed flagship project, the Task Force will advance the management of perfluorocarbon (PFC) emissions in primary aluminum smelters. Reduction in PFC emissions would substantially reduce the global contribution of greenhouse gas emissions. PFCs are potent greenhouse gases with a very long atmospheric lifespan. Under the U.S. EPA Voluntary Aluminum Industrial Partnership (VAIP), and under the expanded efforts of the more recent Climate Vision agreement, the U.S.' primary aluminum industry has reduced PFC emission intensity by about 77%, from 1.31 tons of carbon equivalent emissions per ton of production in 1990 to 0.3 tons per ton of production in 2004. The PFC management project under the Asia-Pacific Partnership seeks to transfer this progress to the other Partner countries. Initial workshops have been held in

Beijing, and a training workshop is under development for 2007 in India. Given that China is now the world's largest aluminum producer, and India is rapidly expanding its production, this project has a large potential to reduce current and future aluminum smelting greenhouse gas emissions.

Buildings and Appliances (U.S. Co-Chair; DOE, EPA). The Buildings and Appliances Task Force seeks to increase levels of private investment in energy efficient buildings and appliances in support of broader national efforts that support sustainable development, increase energy security, and reduce environmental impacts. The Task Force is using existing tools, such as Memoranda of Understanding and bilateral agreements, to expand cooperation and collaboration. It is developing and employing new tools, such as best practice guidelines and market transformation strategies, to increase the energy efficiency of buildings and appliances in Partner countries. Members of the Task Force believe that abundant opportunities exist to do so cost-effectively, and have agreed to: cooperate in the development of demonstration technologies, advance building design principles that increase energy efficiency; and identify barriers to the implementation of energy efficient practices and technologies.

Through the Buildings and Appliances Task Force, the U.S. is working with the Chinese government and private companies to implement no-cost or low-cost practices and cost-effective retrofits that can reduce energy use by as much a 15%. EPA's eeBuildings program, which shares the lessons learned from Energy Star, launched a major new partnership with Savills, a premier property services firm with 14,500 employees worldwide. Savills has offices in six key Chinese cities and manages over 90 large buildings in China. Through this collaborative venture, EPA will train several hundred Savills building managers, provide input for a new portfolio management system, and grant technical assistance to improve the operations of 85 government-owned buildings.

Cement (EPA). The Cement Task Force is developing energy efficiency and emission reduction benchmarks to allow for standardized measurement of the energy and environmental performance of participating countries' cement sectors. This is an important policy tool to set voluntary energy efficiency targets and evaluate progress. The Task Force uses this information

to help prioritize investments in energy efficient technologies. The Cement Task Force will also analyse the legal frameworks in the Asia-Pacific Partnership nations and identify incentives for and barriers to implementing energy efficient and clean manufacturing technology.

The Asian Development Bank (ADB) is working with EPA to conduct pilot projects in China to quantify energy cost savings and pollution and carbon dioxide reductions resulting from the installation of clean technology, and identify finance mechanisms for promoting private sector investments in clean technology in China. A conference is scheduled to take place in Beijing on September 26, 2006 to engage key ministries. ADB is poised to extend the project to other Partnership countries if it is successful in China. Cement production plays a significant role in the rapidly expanding economies of China and India. This initiative holds great potential to improve the energy efficiency of and reduce emissions from China's cement production.

Cleaner Fossil Energy (DOE, EPA). The Cleaner Fossil Energy Task Force seeks to accelerate the demonstration and deployment of cleaner fossil energy technologies in Partnership countries by: building capacity and expertise to support cleaner technology development; identifying and addressing barriers to expansion of cleaner fossil energy technologies including technical barriers, site approvals and licensing constraints, infrastructure limitations, and inter-country market structures; and assessing and promoting CO_2 capture and storage opportunities.

Earlier this month, the Japan Coal Energy Center (JCoal) and the European Parliaments Research Initiative co-sponsored a workshop in Tokyo on Integrated Gasification Combined Cycle (IGCC) clean coal technology and Carbon Capture and Storage. All six Asia-Pacific Partnership countries sent representatives to this event.

India and South Korea have recently joined the FutureGen Initiative, a $1 billion, 10-year long, public-private partnership to build the world's first coal-based, near-zero emissions electricity and hydrogen power plant. It is designed to dramatically reduce air pollution and capture and store greenhouse gas emissions through carbon sequestration. The two countries have each pledged $10 million; the member companies have collectively committed $250 million including international companies in Australia and China.

Coal Mining (U.S. Chair; DOE, DOI). The Coal Mining Task Force seeks to: meet the increasing energy demand using sustainable coal mining practices; ensure an adequate, competent workforce; accelerate the deployment of technologies and practices that can improve resource recovery, including coal mine methane; and improve the economics and efficiencies of coal mining, reclamation, and coal processing while continuing to improve mine safety and reduce environmental impacts.

The U.S. is playing a large role in the Task Force's submissions to Australia's "Leading Practice Sustainable Development Program for the Mining Industry" project, which is publishing four volumes on best practices in coal mining. The first of four books will be completed by the end of the year. The U.S. delegation added content from a newly published book on "Managing Coal Combustion Residues in Mines" by the National Research Council of the National Academies 2006 to this program.

The Methane to Markets Partnership is another highly practical major element in the Bush Administration's series of international technology partnerships. Launched in November 2004, the Methane to Markets Partnership focuses on advancing cost-effective, near-term methane recovery and use as a clean energy source from coal mines, oil and natural gas facilities, landfills, and agricultural waste management systems. The Methane to Markets Partnership, in coordination with the Asia-Pacific Partnership, will hold a coal mine methane development workshop in Brisbane, Australia on October 4th and 5th. The workshop will address opportunities and impediments to coal mine methane project development by focusing on case studies and experiences in Australia, the U.S., and internationally. A Coal Mine Subcommittee meeting will follow on October 6th. The Asia-Pacific Partnership builds upon the principles of Methane to Markets and is actively leveraging its resources in the interagency process.

The Coal Mining Task Force will hold a mine safety workshop in Washington, DC this fall. The Australian delegation will assist. Planning is now underway, with National Mining Association taking the lead.

Power Generation (U.S. Chair; DOC, DOE). The Power Generation and Transmission Task Force seeks to significantly improve the efficiency and environmental performance of power generation, transmission and distribution, and end use. The Task Force will assess opportunities for practical actions to develop and deploy power generation, transmission and demand side management technologies that can aid development and mitigate climate concerns. The Task Force is also facilitating the deployment of practices, technologies and processes to improve efficiency of power production and transmission. We have demonstrated that simple and inexpensive improvements in Indian power plants can increase efficiency by more than 1.5 percent. Replicating these improvements at over 130 small coal power plants could reduce India's CO_2 emissions by over 100 million tons/year and reduce fuel costs by over $150 million/year. Communicating efficient practices and sharing knowledge is a cornerstone of the Power Generation Task Force's Action Plan. Plans are in place through the Partnership to engage Indian officials and engineers.

Over twenty U.S. utilities have agreed to engage the Partnership. Under the auspices of the Partnership, the American Electric Power Corporation (AEP) hosted representatives from the Indian National Thermal Power Corporation, the largest power utility in India, where senior Indian officials and engineers observed opportunities for efficiency and environmental improvements. As a follow-up, this September, AEP and other U.S. companies are planning to host meetings and plant visits to share "best-practices" on techniques and processes to operate power facilities more efficiently and to control emissions. A parallel track co-hosted by AEP, Southern Company, and Tampa Electric Company will allow participants to examine and discuss advanced Integrated Gasification Combined Cycle (IGCC) technologies. Over 100 participating engineers representing all Asia-Pacific Partnership member countries are expected to attend. This event will be the first in a series of events focused on Identification and Implementation of Applicable Best Practices for Power Generation. Both government and industry in China and India have shown strong interest in the return visit and plan to send engineers to participate.

Renewable Energy and Distributed Generation (DOC, DOE). The Renewable Energy and Distributed Generation Task Force is focused on taking concrete actions to achieve real, measurable outcomes toward the accelerated deployment of renewable energy over the next five

years. Members of the Task Forces recognize they must close the remaining gap between the cost of renewable energy and conventional generation.

U.S. Commercial Service (CS) trade specialists from New Delhi and the East Asia Pacific region have organized a reverse trade mission from India to Chicago, California, and Washington, DC for August 5th to 16th. The delegation, consisting of 16 Indian business and government decision-makers in the renewable energy and energy efficiency sectors first attended the U.S. Department of Energy-sponsored Energy 2006 conference in Chicago where CS organized 45 one-on-one meetings with representatives from U.S. renewable energy product manufacturers. In California, the delegation met with local municipalities, regional authorities, and private companies involved with the industry, with whom the delegation members had another 130 one-on-one meetings. Preliminary results of the mission already show projected U.S. exports in the short term of biomass, biodiesel, combined heat and power, bioplasma technology, photovoltaic solar panels, inverters, and financial services worth almost $12 million.

Steel (DOC, DOE). The Steel Task Force is developing a plan for sector-relevant benchmark and performance indicators. The Task Force's plan will include new developments in steel production and the transfer of these developments along with current state-of-the-art "best practices" in steel technologies. The Task Force will also encourage and increase recycling across the Partnership.

For the first time the steel industries in China and India are cooperating on new technologies and processes that will make their steel production cleaner and more energy efficient. Both China and India are significantly increasing steel production to support their rapid construction. China is projecting that their steel production will soon be approximately four times the steel production of the U.S. By implementing new technologies and best practices used in Japan, Australia, and the U.S., the new production in South Korea, India and China will be much cleaner, more energy efficient, and have lower greenhouse gas emissions.

CROSS-CUTTING POLICY NEEDS

The Asia-Pacific Partnership provides a framework for tackling policy issues that can advance the objectives of all or a group of the Task Forces. For example, most of the Task Force Action Plans will include an emphasis on energy conservation, improved energy efficiency and air pollution control. Partnership countries account for roughly 50 percent of global trade in these goods. However, each country currently imposes tariffs that impede diffusion of many technologies, goods and services to advance these objectives. Where imports occur, the tariffs make the products more expensive, cutting into efforts to make such technologies more widely available. Possible inconsistent application by some of our Partners may further obstruct the transfer of the best of currently available technology by creating an opaque process for exporters and increases transaction costs for their customers.

By eliminating these tariff barriers and leveling the playing field for all vendors, we will encourage the flow of more energy efficient and cleaner technology. For example, given the long life span of power plants, deploying the best efficiency technology upfront ensures that we enjoy the greatest possible amount of reductions in energy demand, air pollution, and greenhouse gas emissions. At the outset of the Doha Round of World Trade Organization negotiations and during the World Summit on Sustainable Development in Johannesburg, South Africa in 2002, world leaders recognized this issue and committed to address it. The Asia-Pacific Partnership should provide leadership in eliminating tariffs and other trade barriers for these technologies.

FUNDING

As I mentioned earlier, the Partnership is a team effort and requires a team budget. The President's FY'07 budget calls for $52 million to support the work of the Partnership. The Partnership is a key means of implementing Title XVI of the recently enacted Energy Policy Act of 2005. The request is divided among the Departments of State, Energy and Commerce, and the Environmental Protection Agency. Other agencies, such as the Departments of Transportation and Agriculture, will also be participating. The following represents a brief description of the areas of work each agency is undertaking:

State Department: $30 million

- Fossil fuel thermal power plant operational improvements and technology retrofits
- Hydropower and other renewable energy technology deployment
- Cleaner energy technology deployment in rural areas
- Industrial and mining sector strategic planning, efficiency and emission intensity reductions
- Efficiency and emission improvement in rail transport, aviation and urban public transportation
- Policy and institutional development
- Administrative support for technical meetings, conferences, and public communication

Department of Energy: $15 million

- Advanced clean coal technology research and development
- Industrial technology strategic planning and energy efficiency best practices
- Energy efficiency best practices for public and private buildings

The EPA: $5 million

- Enhanced methane recovery
- Data development for emissions inventories and modeling
- Appliance energy efficiency labeling and energy efficiency best practices for buildings

Department of Commerce: $2 million

- Expanded export promotion for cleaner energy technologies
- Identification of barriers to deployment of clean energy technologies
- Assessment of existing standards related to clean energy and energy efficient technologies

In addition to U.S. funding, the Government of Australia has announced that it will contribute 100 million AUD (approximately $75 million U.S.) to the Partnership over 5 years. Discussions are underway regarding financial support from other partners.

CONCLUSION

The President and his Administration are firmly committed to improving economic and energy security, alleviating poverty, improving human health, reducing harmful air pollution, and reducing the growth of greenhouse gas emissions levels. The Administration has advanced policies that encourage research breakthroughs that lead to technological innovation, and take advantage of the power of markets to bring those technologies into widespread use. Our growth-oriented strategy encourages meaningful global participation through actions that will help ensure the continued economic growth and prosperity for our citizens and for citizens throughout the world. Economic growth enables investment in the technologies and practices we need to address these important issues.

Mr. Chairman and Members of the Committee, I look forward to continuing to work with you on this innovative new effort to accelerate the development and deployment of clean energy technologies. Thank you for the opportunity to testify. I look forward to answering any questions you may have.

STATEMENTS BY THE PRESIDENT AND ADMINISTRATION OFFICIALS

The President

"The United States has joined with Australia, China, India, Japan, and South Korea to create a new Asia-Pacific partnership on clean development, energy security, and climate change. This new results-oriented partnership will allow our nations to develop and accelerate deployment of cleaner, more efficient energy technologies to meet national pollution reduction, energy security, and climate change concerns in ways that reduce poverty and promote economic development. The six Asia-Pacific partners will build on our strong history of common approaches and demonstrated cooperation on clean energy technologies. I have directed Secretary of State Condoleezza Rice and Secretary of Energy Sam Bodman to meet with their counterparts this fall to carry forward our new partnership and provide direction for our joint work."

The President
"President's Statement on U.S. Joining New Asia-Pacific Partnership"
July 27, 2005

"[L]ast month, I joined with the leaders of India and China and Australia and Japan and South Korea to create a new Asia Pacific Partnership on Clean Development. This is an innovative program which is authorized by this energy bill. And through it, our goal is to spread the use of clean, efficient energy technologies throughout the Pacific Rim."

The President
"President Signs Energy Policy Act"
August 8, 2005

"[T]he United States and India are working together to improve human health and the environment, and address the issue of climate change. So we've joined together to create the Asia-Pacific Partnership on Clean Development and Climate. Together with Australia and China and Japan and South Korea, we will focus on practical ways to make the best practices and latest energy technologies available to all -- things like -- technologies like zero-emission coal-fired plants. As nations across the region adopt these practices and technologies, they will make their factories and power plants cleaner and more efficient. We look forward to being an active partner in this partnership."

The President
"President Addresses Asia Society, Discusses India and Pakistan"
February 22, 2006

"Our two nations [The United States and Australia] accept other global responsibilities, as well. We helped to build the Asia Pacific Partnership on Clean Development and Climate so we can make the latest energy technologies available to all to increase efficiency and reduce pollution."

The President
"President Bush Welcomes Prime Minister Howard of Australia in Arrival Ceremony at the White House"
May 16, 2006

National Security Advisor

"We established the Asia Pacific Partnership on Clean Development and Climate that is focusing on practical ways to make best practices and the latest energy technologies available to all of the countries."

National Security Advisor Hadley
April 5, 2006

"The Asia-Pacific Partnership on Development and Climate is a group of states working to enhance energy security, reduce poverty, and lower pollution levels through accelerated development of clean technologies."

National Security Advisor Hadley
March 16, 2006

Secretary of State

"We are here today to advance the Asia-Pacific Partnership on Clean Development and Climate. This is a multilateral public-private partnership to enhance energy security, to promote economic growth and to reduce greenhouse gasses. As the President emphasized in his State of the Union Address, this Administration is committed to developing cleaner and more secure sources of energy. This is essential for powering our nation's economy and for preserving our environment.

The Asia-Pacific Partnership is an important part of this commitment. The United States has joined with Australia, China, India, Japan and the Republic of Korea to take real action to achieve our shared development and climate objectives. Through our partnership we seek to move beyond divisive politics and to advance common purposes. Everyone has something to contribute. Everyone stands to gain. And together we represent a powerful force for positive change.

Our CEO partners are global leaders in the energy sectors, which account of a majority of the world's industrial production and power generation. Your contributions are crucial to the success of our partnership. By deploying your best technologies and practices, we will lower the cost of production, we will reduce air pollution and greenhouse gas emissions, and we will develop and bring to the marketplace the next generation of technologies to enhance our energy security and our national security.

Our five partners in government are also critical to this initiative, as they represent some of our world's most vibrant economies and some of our world's most influential nations.

Our partnership will require a sustained commitment from all of us and we in the United States plan to meet our responsibilities. In the fiscal year 2007 Budget that he has just released, President Bush is proposing $52 million to support the work of the Asia-Pacific Partnership with plans to continue strong support for the partnership in years to come. I'm delighted that we here at the State Department will coordinate this effort and I want to thank Under Secretary Dobriansky for her efforts in this regard. We look forward to working with our partners in Congress, particularly Senators Pryor and Hagel to realize our clean development goals.

These two men, these senators, are driving efforts on Capitol Hill to promote a healthier environment through cleaner technologies. The Asia-Pacific Partnership is an ideal framework for advancing the 2005 Energy Policy Act and for strengthening the President's approach of addressing climate objectives in the broader context of sustainable development and energy security.

Working together we have the capacity and the real opportunity to move the international community toward better, cleaner development, toward continued economic growth and job creation and toward a healthier and more secure future for all of our citizens. Thank you."

Secretary Rice
February 9, 2006

Administrator of the Environmental Protection Agency

"I would like to highlight a particularly important point of cooperation between China and the United States. We are each a founding member of the Asia-Pacific Partnership on Clean Development and Climate. This multilateral public-private partnership is precisely the type of initiative that will help China achieve its goals under your new five-year plan – by enhancing energy security, promoting economic growth, and reducing greenhouse gasses. Likewise, President Bush has committed our nation to developing cleaner and more secure sources of energy, in order to power our economy and protect public health.

But the Asia-Pacific Partnership is not just an initiative of governments. The companies who are members of this Partnership account for a majority of the world's industrial production and power generation. The strength of our partners in industry provide the Asia-Pacific Partnership with a greater ability to design and implement programs that will achieve our collective goals related to energy security, economic growth, and the reduction of greenhouse gases.

Many of America's domestic environmental protection programs are premised on the same foundation as the Asia Pacific Partnership. It is a notion that has underpinned environmental programs in the U.S. for over three decades: that economic growth and a clean environment go hand-in-hand."

Administrator Johnson
April 11, 2006

Secretary of Energy

"I'm pleased to announce today that President Bush will request $52 million in his upcoming FY 2007 budget to support the activities of the APP. This funding request will complement the $3 billion the U.S. spends each year on climate change technology solutions and the billions of dollars being invested by the U.S. private sector to increase efficiency and reduce emissions through voluntary programs like Climate Vision."

Secretary Bodman
January 12, 2006

Secretary of Commerce

"We all want to see greater stability and trust in the relationship between China and the United States. The Asian Pacific Partnership--an initiative to promote clean development and cooperation on energy and environmental issues--is a great example of what we can accomplish by working together."

Secretary Gutierrez
March 14, 2006

"The President's FY 2007 Budget requests $409 million for ITA to serve its goals along with an increase of $2 million to support the President's Asia-Pacific Partnership on Clean Development and Climate. This partnership will reduce the barriers to energy efficient American products and technologies in Australia, China, India, Japan and South Korea."

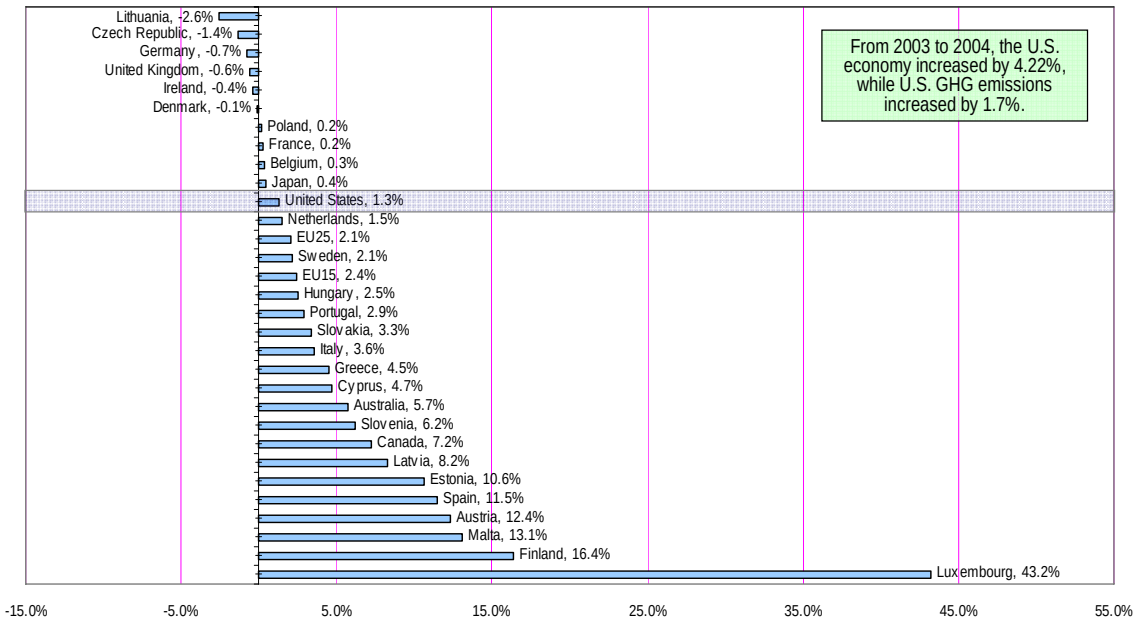
Department of Commerce
Press Release
February 6, 2006

ATTACHMENTS

Attachment 1: Trends in GHG Emissions: 2000-2004

ATTACHMENT 1

Trends in GHG Emissions: 2000-2004

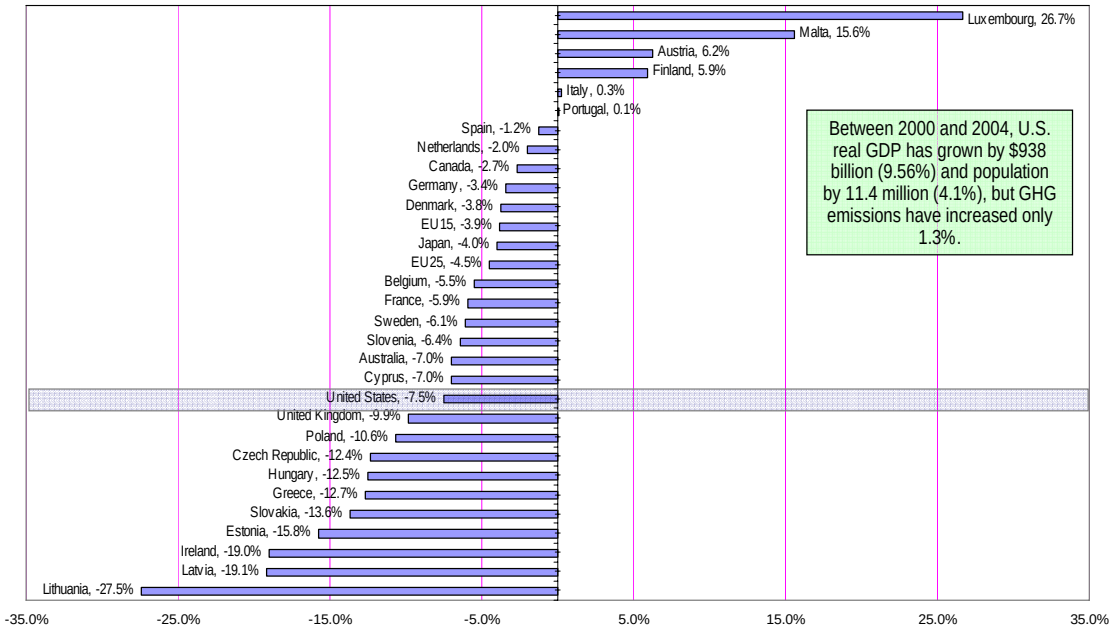


Emissions Data: 2006 National Inventory Reports and Common Reporting Formats at http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/2761.php

Attachment 2: Trends in GHG Emissions Intensity: 2000-2004

ATTACHMENT 2

Trends in GHG Emissions Intensity: 2000-2004

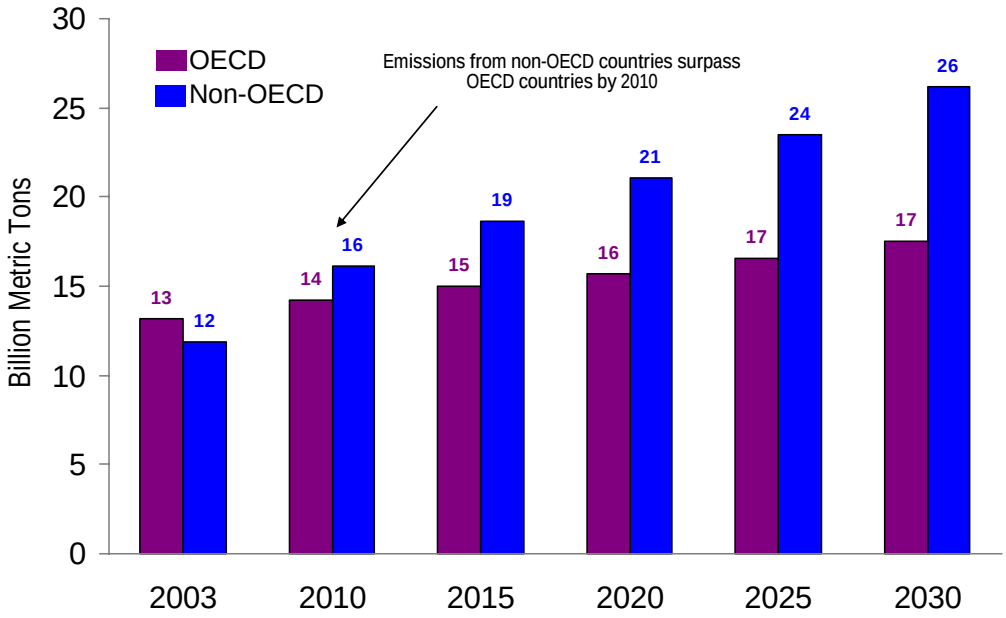


Emissions Data: 2006 National Inventory Reports and Common Reporting Formats at http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/3734.php
Economic Data: Haber; These calculations are based on changes in Chained Real GDP. Since the chart is based on percent change, there should be little substantive difference from calculations using other measures of GDP such as those based on Purchase Power Parity. Since there is less controversy in using Chained Real GDP, these are the figures presented.

Attachment 3: World Carbon Dioxide Emissions by Region: 2003-2030

ATTACHMENT 3

World Carbon Dioxide Emissions by Region: 2003-2030



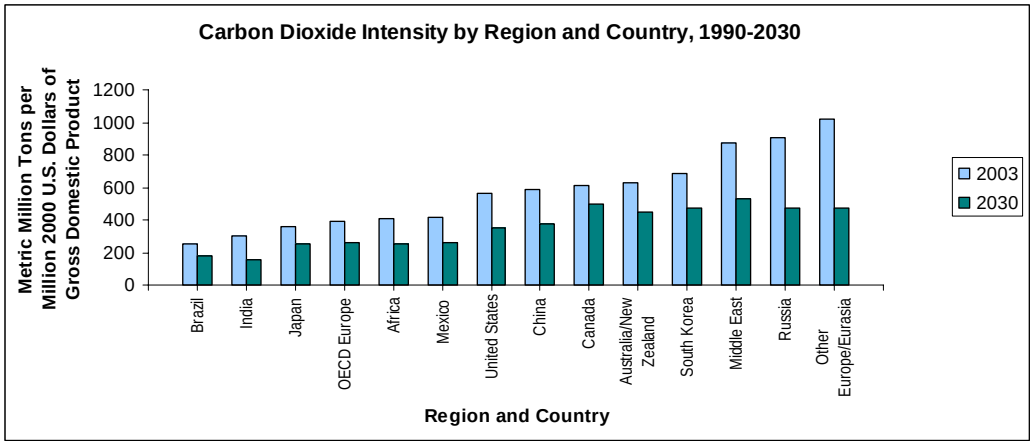
Source: Energy Information Administration, International Energy Outlook, 2006

Attachment 4: Carbon Dioxide Intensity Improvement Projections

ATTACHMENT 4

Carbon Dioxide Intensity Improvement Projections by Selected Countries and Regions

(Metric Tons per Million 2000 U.S. Dollars of Gross Domestic Product)



Source: International Energy Outlook 2006, Energy Information Administration, Department of Energy

Attachment 5: Asia-Pacific Partnership Organizational Chart

ATTACHMENT 5

Asia-Pacific Partnership on Clean Development and Climate

Organizational Chart