



Partnerships for Clean Development, Energy Security and Climate Change

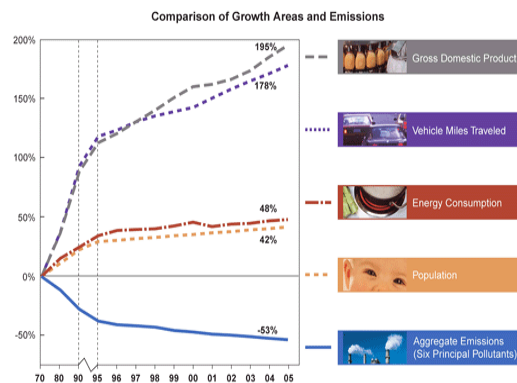
Remarks at the Alliance to Save Energy
September 12, 2006

Hon. James L. Connaughton
Chairman
Council on Environmental Quality



Real Environmental Results

- **Air Pollution Down 53% since 1970:**
 - Down 12% 2000-2005
 - Economy Up 195%
 - Vehicle Miles Up 178%
 - Energy Use Up 48%
 - Population Up 42%
- **GHG Emissions Up 1.3% 2000-2004:**
 - Population up 11.4 million or 4.1%—nearly equivalent to the combined 2004 population of Greece and Iceland
 - Real GDP up by \$938 billion or 9.56%—nearly equivalent to the combined 2002 GDP of Brazil and India (in billion 2000 US\$)



GDP Data: Haber
Air Emissions Data: U.S. Environmental Protection Agency at
<http://www.epa.gov/airtrends/2006/econ-emissions.html>
U.S. GHG Emissions Data: 2006 Common Reporting Format
http://unfccc.int/files/national_reports/annex_1_ghg_inventories/national_inventories_submissions/application/x-zip-compressed/usa_2006_crf_05apr.zip



Domestic Clean Air Policy

CLEAR SKIES - Reduces Power Plant Pollution by 70%

- Market-Based Cap and Trade System
- US Fleet of Coal-Fired Power Plants - 1300 Nationwide
- Promotes Efficiency Investment, Technology Innovation and Cost Reduction
- Promotes Clean Coal and Relieves Pressure On Natural Gas Usage
- \$50+ Billion in Pollution Controls, Efficiency Upgrades
- \$100+ Billion Health Savings
- High Compliance - Low Bureaucracy

NSR Reform - Would Unleash Immediate Investments in Energy Efficiency While Preparing for Pollution Control Retrofits



Domestic Clean Air Policy

CLEAN DIESEL RULES - Reduces Diesel Engine Pollution by 90%+

- Performance Standard - Promotes Innovation
- Fuel Sulfur Dioxide Reduced 99+% in 2007
- New Engine Nitrogen Oxide Reduced 90%
- Large Trucks, Construction and Farm Equipment, Locomotives, Marine Vessels
- Commercially Feasible Timelines
- Assures Reliability and Affordability of New Engines
- Enables Larger U.S. Market in Fuel Efficient Vehicles
- Up to 30% Improved Fuel Economy



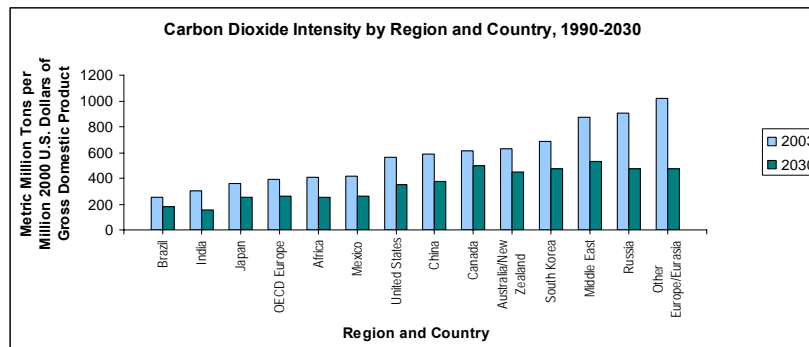
Domestic Energy Policy

- **Tax Law Changes**
 - Promotes Investment in New, Efficient Equipment
- **Energy Policy Act of 2005**
 - \$11.5 Billion Clean Technology Tax Incentives
 - 7.5 Billion Gallon Ethanol and Biodiesel Mandate
 - Appliance and Building Energy Efficiency Standards
- **Fuel Economy Improvements**
 - 15% Increase in Light Trucks/SUVs Over 6 Years
 - Sensible Reforms to Save Fuel, Save Lives, Save Jobs
 - Need New Authority for Passenger Cars
 - SmartWay Transportation Partnership, Climate Vision, and Other Partnerships
- **Federal Energy Management Plan**



Carbon Dioxide Intensity Improvement Projections by Selected Countries and Regions

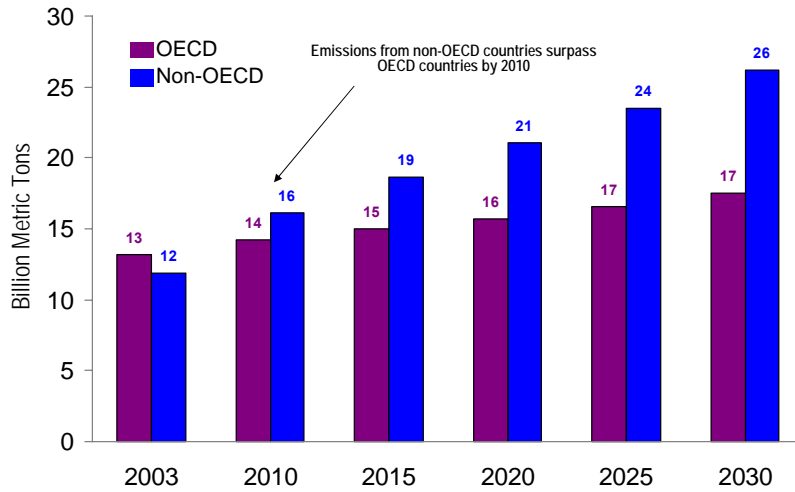
(Metric Tons per Million 2000 U.S. Dollars of Gross Domestic Product)



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



World Carbon Dioxide Emissions by Region: 2003-2030



Source: Energy Information Administration, International Energy Outlook, 2006



Climate VISION Sectors



Aluminum

Achieved goal of an additional direct carbon intensity reduction of 25% since 2000; represents 98% of primary aluminum production.



Railroads

By 2012, reduce the GHG emissions intensity of operations by 18% relative to 2002 levels.



Chemical Manufacturing

By 2012, reduce overall GHG intensity by 18% relative to 1990 levels; represents 90% of U.S. chemical industry production.



Forest Products

By 2012, reduce the forest products industry's greenhouse gas intensity by 12% relative to 2000; represents over 80% of U.S. paper, wood and forest products.



Magnesium

By 2010, eliminate sulfur hexafluoride emissions; represents 80% of the global magnesium industry.










Oil and Gas

Improve energy efficiency of refining operations by 10% over 2002 levels.



Climate VISION Sectors

	Semiconductors	By 2010, cut perfluorocompound emissions by 10% from 1995 levels; responsible for more than 85 percent of U.S. semiconductor production.
	Automobile Manufacturers	By 2012, achieve a 10% reduction in GHG emissions from manufacturing relative to 2002 levels.
	Cement	By 2020, reduce carbon dioxide (CO ₂) emissions per ton of product by 10% relative to a 1990 baseline.
	Electric Power	By 2012, reduce the power sector's carbon intensity by the equivalent of 3-5 percent by 2012; represents 100% of the power generators in the United States.
	Iron and Steel	By 2012, achieve a 10% increase in sector-wide average energy efficiency relative to 1998; represents ~ 75% of U.S. and North American steel capacity.
	Mining	Obtain sector-wide engagement in voluntary programs to reduce GHG emissions.
	Business Roundtable	Achieve 100% participation of BRT member companies in programs fostering enhanced voluntary action on GHG emissions.
	Minerals	By 2012, reduce GHG emissions from fuel combustion by 4.2% relative to 2000; represents 80% of soda ash, 100% of borates, and 60% of sodium silicate manufacturing.
	Lime	By 2012, reduce greenhouse gas emissions from fuel combustion per ton of product by 8% relative to 2002; represents ~ 95% of U.S. commercial lime production.



Asia-Pacific Partnership on Clean Development and Climate

President's Statement: July 27, 2005



- 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.



Significance

Six Asia-Pacific Partners in 2003 accounted for:

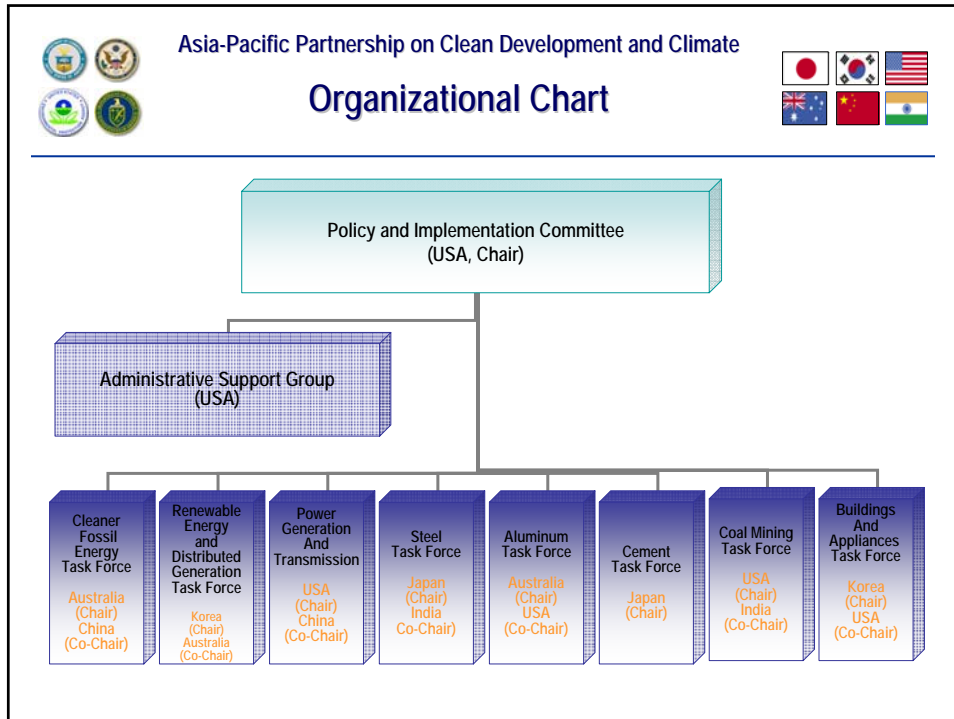
- 64.7% of World GDP (MER)
- 49.8% of World GDP (PPP)
- 45.2% of World Population
- 51.0% of World Total Primary Energy Consumption
- 49.4% of World CO₂ Emissions from the Fossil Fuel Consumption and Flaring
- 64.5% of World Coal Production
- 63.6% of World Coal Consumption
- 45.6% of World Petroleum Consumption
- 55.6% of World Net Conventional Thermal Electricity Generation
- 49.3% of World Total Net Electricity Generation
- 30.1% of World Dry Natural Gas Consumption

Source: Energy Information Administration, *International Energy Annual 2003*



Focus

- Voluntary practical measures taken by these six countries in the Asia-Pacific region to create new investment opportunities, build local capacity, and remove barriers to the introduction of clean, more efficient technologies.
- Help each country meet nationally designed strategies for improving energy security, reducing pollution, and addressing the long-term challenge of climate change.
- Promote the development and deployment of existing and emerging cleaner, more efficient technologies and practices that will achieve practical results in areas such as:
 - Energy Efficiency
 - Clean Coal
 - Natural Gas
 - Bioenergy
 - Methane Capture/Use
 - Civilian Nuclear Power
 - Geothermal
 - Agriculture/Forestry
 - Rural/Village Energy Systems
 - Advanced Transportation
 - Hydro/Wind/Solar Power
 - Building/Home Construction/Operation



Asia-Pacific Partnership on Clean Development and Climate

CATERPILLAR®

- The Asia-Pacific Partnership intends to identify and utilize profitable, cost-benefit-justified solutions that result in mass-produced outcomes.
 - The Partnership has targeted methane, which has traditionally been vented into the atmosphere and is more than twenty times more potent as a greenhouse gas than carbon dioxide.
- Caterpillar’s roughly \$60 million contract with Shanxi Jincheng Anthracite Coal Mining Group will provide 60 methane-gas-powered generator sets to capture the gas and covert it into 120 megawatts of power.
 - This groundbreaking deal under the Asia-Pacific Partnership and Methane-to-Markets Partnership will reduce greenhouse gas emissions by 4.5 million tons over a 20-year period while improving the capacity of the local power grid.



- Launched in 2004, the Methane to Markets Partnership (M2M) is a multilateral initiative uniting public and private interests to advance the recovery and use of methane as a clean energy source.
- Currently, 17 national governments and over 250 private sector organizations are working collaboratively to advance methane recovery and use projects in four major source areas:
 - Agriculture,
 - Landfills,
 - Underground coal mines, and
 - Natural gas and oil systems.



- Natural Gas STAR is a voluntary partnership between the U.S. oil and natural gas industry and EPA to cost-effectively reduce methane emissions.
- Over 110 partners have saved over 403 billion cubic feet of methane, worth over \$2.8 billion at today's natural gas prices.
- 20 industry trade associations endorse Natural Gas STAR, including AWMA and API.



Asia-Pacific Partnership on Clean Development and Climate

Clean Fossil Energy Task Force 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 geo-sequestration 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.



Asia-Pacific Partnership on Clean Development and Climate

Renewable Energy and Distributed Generation 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 Partnership's economic development and climate goals.
- Promote further collaboration between Partners 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.



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Power Generation and Transmission Task Force 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 and 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.



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Steel Task Force 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 GHG emissions from steel production.
- Increase recycling across the Partnership.



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Aluminum Task Force Objectives

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



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Cement Task Force Objectives

- Facilitate demonstration and deployment of energy-efficient and cleaner product formulation technologies in Partnership countries that will significantly improve the GHG 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.



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Coal Mining Task Force 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.



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Building and Appliances Task Force 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.