



Environment – Documents on the Web – Spring 2010

GOVERNMENT DOCUMENTS

CLIMATE CHANGE -- INTERNATIONAL NEGOTIATIONS

PRESS CONFERENCE FOLLOWING THE MAJOR ECONOMIES FORUM

Todd Stern, Special Envoy for Climate Change, and Michael Froman, Deputy National Security Advisor for International and Economic Affairs. Washington, DC. April 19, 2010.

<http://www.state.gov/g/oes/rls/remarks/2010/140660.htm>

This was the sixth meeting at the leaders' representative level since we launched the Major Economies Forum last year. It was attended by officials of the 17 major economies as well as the United Nations. Plus we had representatives of Columbia, Denmark, Grenada, and Yemen also participating in the session. Because of the volcano, some of the leaders' representatives from Europe and elsewhere were unable to join in person, but we were able to video conference many of them in and we were able to have a dialogue with them via video conference throughout the day. The purpose of the Major Economies Forum is to facilitate a candid dialogue among the major developed and developing countries about the key issues around climate change and clean energy, including by promoting technology, cooperation, and the clean energy space. There was broad agreement that this smaller, informal discussion such as the MEF contributed to the success of Copenhagen and we're considering holding another MEF later this summer.

CHAIR'S SUMMARY OF THE SIXTH MEETING OF THE LEADERS' REPRESENTATIVES OF THE MAJOR ECONOMIES FORUM ON ENERGY AND CLIMATE

U.S. Department of State. Washington, DC. April 19, 2010.

<http://www.state.gov/r/pa/prs/ps/2010/04/140479.htm>

The sixth Meeting at the Leaders' representative level of the Major Economies Forum on Energy and Climate met in Washington, DC, April 19, 2010. It was attended by officials from the seventeen major economies, as well as the United Nations, with Colombia, Denmark, Grenada, and Yemen also participating in the session. Participants generally felt that Copenhagen Accord represented an important step forward, and that it provided important political consensus that should be reflected regarding the key issues in the negotiations leading up to Cancun.

U.S. CLIMATE ACTION REPORT 2010, 5TH EDITION

U.S. Department of State. Draft. April 8, 2010. 193 pages.

<http://www.state.gov/documents/organization/140636.pdf>

This is a draft of the Fifth U.S. Climate Action Report to the UN Framework Convention on Climate Change. In June 1992, the United States signed the United Nations Framework Convention on Climate

Change (UNFCCC), and ratified it in October of that year. Pursuant to the national communication reporting requirements under Articles 4.2 and 12 of the Convention and to guidelines later adopted by the UNFCCC Conference of the Parties (COP), the United States submitted the first U.S. Climate Action Report (CAR) to the UNFCCC Secretariat in 1994, the second in 1997, the third in 2002, and the fourth in 2007. The Fifth U.S. Climate Action Report presents a detailed outline of the actions the U.S. is taking to address climate change, contains updated projections on U.S. greenhouse gas emissions, and underscores the United States commitment to address climate change.

A U.S.-CENTRIC CHRONOLOGY OF THE INTERNATIONAL CLIMATE CHANGE NEGOTIATIONS

Jane A. Leggett. Congressional Research Service (CRS). March 30, 2010. 14 pages.

http://assets.opencrs.com/rpts/R40001_20100330.pdf

As background to the ongoing negotiations, this document provides a U.S.-centric chronology of the international policy deliberations to address climate change from 1979-2009. It begins before agreement on the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, and proceeds through the Kyoto Protocol in 1997, the Marrakesh Accords of 2001, the Bali Action Plan of 2007, and the Copenhagen conference in 2009. The Bali Action Plan mandated the Copenhagen negotiations on commitments for the period beyond 2012, when the first commitment period of the Kyoto Protocol ends. This chronology identifies selected external events and major multilateral meetings that have influenced the current legal and institutional arrangements, as well as contentious issues for further cooperation.

CLIMATE CHANGE -- GLOBAL ISSUES

A HUMAN HEALTH PERSPECTIVE ON CLIMATE CHANGE

Environmental Health Perspectives and the National Institute of Environmental Health Sciences. April 22, 2010. 80 pages.

<http://www.niehs.nih.gov/health/docs/climatereport2010.pdf>

Climate change endangers human health, affecting all sectors of society, both domestically and globally. The environmental consequences of climate change, both those already observed and those that are anticipated, such as sea-level rise, changes in precipitation resulting in flooding and drought, heat waves, more intense hurricanes and storms, and degraded air quality, will affect human health both directly and indirectly. Addressing the effects of climate change on human health is especially challenging because both the surrounding environment and the decisions that people make influence health. The purpose of this paper is to identify research needs for all aspects of the research-to-decision making pathway that will help us understand and mitigate the health effects of climate change as well as ensure that we choose the healthiest and most efficient approaches to climate change adaptation.

CHANGES IN THE ARCTIC: BACKGROUND AND ISSUES FOR CONGRESS

Ronald O'Rourke. Congressional Research Service (CRS). March 30, 2010. 65 pages.

http://assets.opencrs.com/rpts/R41153_20100330.pdf

The diminishment of Arctic sea ice has led to increased human activities in the Arctic, and has heightened concerns about the region's future. The United States, by virtue of Alaska, is an Arctic country and has substantial interests in the region. Record low extent of Arctic sea ice in 2007 focused scientific and policy attention on its linkage to global climate change, and to the implications of projected

ice-free seasons in the Arctic within decades. The Arctic has been projected by several scientists to be perennially ice-free in the late summer by the late 2030s. The Arctic has increasingly become a subject of discussion among political leaders of the nations in the region. Although there is significant international cooperation on Arctic issues, the Arctic is also increasingly being viewed by some observers as a potential emerging security issue. In varying degrees, the Arctic coastal states have indicated a willingness to establish and maintain a military presence in the high north. U.S. military forces, particularly the Navy and Coast Guard, have begun to pay more attention to the region.

DEFORESTATION AND CLIMATE CHANGE

Ross W. Gorte and Pervaze A. Sheikh. Congressional Research Service (CRS). March 24, 2010. 45 pages.

http://assets.opencrs.com/rpts/R41144_20100324.pdf

Efforts to mitigate climate change have focused on reducing carbon dioxide (CO₂) emissions into the atmosphere. Some of these efforts center on reducing CO₂ emissions from deforestation, since deforestation releases about 17% of all annual anthropogenic greenhouse gas (GHG) emissions and is seen as a relatively low-cost target for emissions reduction. Policies aimed at reducing deforestation are central points of a strategy to decrease carbon emissions, reflected in pending legislation in Congress (e.g., H.R. 2454 and S. 1733) as well as in international discussions, such as the December 2009 negotiations in Copenhagen.

CLIMATE CHANGE: PRELIMINARY OBSERVATIONS ON GEOENGINEERING SCIENCE, FEDERAL EFFORTS, AND GOVERNANCE ISSUES

Frank Rusco, Director, Natural Resources and Environment. Government Accountability Office (GAO). Testimony before the Committee on Science and Technology, U.S. House of Representatives. March 18, 2010. 19 pages.

<http://www.gao.gov/new.items/d10546t.pdf>

Key scientific assessments have underscored the urgency of reducing emissions of carbon dioxide to help mitigate potentially negative effects of climate change. Recently, some policymakers have raised questions about geoengineering -- large-scale deliberate interventions in the earth's climate system to diminish climate change or its potential impacts -- and its role in a broader strategy of mitigating and adapting to climate change. Most geoengineering proposals fall into two approaches: solar radiation management (SRM), which offset temperature increases by reflecting a small percentage of the sun's light back into space, and carbon dioxide removal (CDR), which address the root cause of climate change by removing carbon dioxide from the atmosphere. This testimony focuses on GAO's preliminary observations on the state of the science regarding geoengineering approaches and their effects, federal involvement in geoengineering activities, and the views of experts and federal officials about the extent to which federal laws and international agreements apply to geoengineering.

CLIMATE CHANGE -- DOMESTIC ISSUES

U.S. CARBON DIOXIDE EMISSIONS IN 2009: A RETROSPECTIVE REVIEW

U.S. Energy Information Administration (EIA). May 5, 2010. 15 pages.

http://www.eia.doe.gov/oiaf/environment/emissions/carbon/pdf/2009_co2_analysis.pdf

This analysis examines the level and drivers of energy-related carbon dioxide emissions in 2009. In 2009, energy-related carbon dioxide emissions in the United States saw their largest absolute and percentage decline (405 million metric tons or 7.0 percent) since the start of EIA's comprehensive record of annual energy data that begins in 1949, more than 60 years ago. While emissions have declined in three out of the last four years, 2009 was exceptional. Emissions developments in 2009 reflect a combination of factors, including some particular to the economic downturn, other special circumstances during the year, and other factors that may reflect persistent trends in U.S. economy and energy use.

HOW POLICIES TO REDUCE GREENHOUSE GAS EMISSIONS COULD AFFECT EMPLOYMENT

Congressional Budget Office (CBO). Economic and Budget Issue Brief. May 5, 2010. 11 pages.

http://www.cbo.gov/ftpdocs/105xx/doc10564/05-05-CapAndTrade_Brief.pdf

Adopting policies aimed at reducing emissions of greenhouse gases would shift the demand for goods and services away from fossil fuels and products that require substantial amounts of those fuels to make or to use and toward alternative forms of energy and products that require lesser amounts of fossil fuels. Employment patterns would shift to mirror those changes in demand. CBO concludes that total employment during the next few decades would be slightly lower than would be the case in the absence of such policies. In particular, job losses in the industries that shrink would lower employment more than job gains in other industries would increase employment, thereby raising the overall unemployment rate. Eventually, however, most workers who lost jobs would find new ones. In the absence of policies to reduce emissions of greenhouse gases, changes to the climate also might affect employment; however, this brief does not address such changes because that effect would probably arise after the next few decades, and it has not been studied as carefully by researchers.

LOCAL FOOD SYSTEMS: CONCEPTS, IMPACTS, AND ISSUES

Various contributors. Economic Research Service. U.S. Department of Agriculture. Economic Research Report Number 97. May 2010. 87 pages.

<http://www.ers.usda.gov/Publications/ERR97/ERR97.pdf>

This overview of local food systems explores alternative definitions of local food, estimates market size and reach, describes the characteristics of local consumers and producers, and examines early indications of the economic and health impacts of local food systems. Statistics suggest that local food markets account for a small, but growing, share of U.S. agricultural production. For smaller farms, direct marketing to consumers accounts for a higher percentage of their sales than for larger farms. Findings are mixed on the impact of local food systems on local economic development and better nutrition levels among consumers, and sparse literature is so far inconclusive about whether localization reduces energy use or greenhouse gas emissions.

CLIMATE CHANGE INDICATORS IN THE UNITED STATES

U.S. Environmental Protection Agency (EPA). April 27, 2010. 80 pages.

http://www.epa.gov/climatechange/indicators/pdfs/ClimateIndicators_full.pdf

Collecting and interpreting environmental indicators has played a critical role in our increased understanding of climate change and its causes. This report presents 24 indicators, each describing trends in some way related to the causes and effects of climate change. The indicators focus primarily on the United States, but in some cases global trends are presented in order to provide context or a basis for comparison. The indicators span a range of time periods, depending on data availability. For each

indicator, this report presents one or more graphics showing trends over time; a list of key points; and text that describes how the indicator relates to climate change, how the indicator was developed, and any factors that might contribute to uncertainty in the trend or the supporting data (referred to in this report as “indicator limitations”).

CLIMATE CHANGE: EU AND PROPOSED U.S. APPROACHES TO CARBON LEAKAGE AND WTO IMPLICATIONS

Larry Parker and Jeanne J. Grimmett. Congressional Research Service (CRS). April 12, 2010. 71 pages.

<http://fpc.state.gov/documents/organization/142744.pdf>

Greenhouse gas reduction legislation introduced over the last two Congresses has included provisions to address carbon leakage and to mitigate the effect of carbon policies on U.S. competitiveness. In general, two strategies have been proposed: providing assistance to greenhouse gas-intensive, trade-exposed industries; and imposing tariffs on certain greenhouse gas-intensive goods imported into the country from countries not implementing comparable carbon policies. This report examines the dynamics of this issue in three parts. First, the European Union (EU) has been implementing a cap-and-trade program for four years, and has finalized a third reduction phase that will run from 2013 through 2020. This report reviews and analyzes the experience of the EU in addressing its concerns about energy-intensive, trade-exposed industries, and the lessons those efforts may have for the United States. Second, the House-passed American Clean Energy and Security Act of 2009 (H.R. 2454) contains both a free allocation scheme and a border measure among its provisions to address the concerns of energy-intensive, trade-exposed industries. This report reviews and analyzes these provisions. Third, these same provisions could come under scrutiny under various U.S. trade agreements, particularly within the World Trade Organization (WTO). Concerns have been expressed that the border measure contained in H.R. 2454 would be suspect under various provisions of the WTO. This report analyzes the potential WTO implications of any attempt to implement a subsidy or a border measure under H.R. 2454.

U.S. CARBON DIOXIDE EMISSIONS AND INTENSITIES OVER TIME: A DETAILED ACCOUNTING OF INDUSTRIES, GOVERNMENT AND HOUSEHOLDS

Economics and Statistics Administration. U.S. Department of Commerce. April 2010. 42 pages.

<http://www.esa.doc.gov/co2/>

Greenhouse gas emissions have increased markedly since the pre-industrial era and are increasing at such a rate that their concentration in the atmosphere is producing a warming influence on the global climate. In order to make well-informed decisions on ways to reduce greenhouse gas emissions, it is important to understand how the different economic sectors contribute to the production of greenhouse gases, which sectors are relatively carbon dioxide (CO₂) intensive, and how these patterns have evolved over time. To that end, this report analyzes energy-related CO₂ emissions and intensities for 349 industries, Government (Federal, state and local), and Households for the 1998 to 2006 period. The 349 industries cover the entire economy, providing information on detailed subsectors within the aggregate sectors of Agriculture, Forestry and Fisheries, Mining, Construction, Manufacturing, Transportation Services, and All Other Services.

AUTO INDUSTRY: LESSONS LEARNED FROM CASH FOR CLUNKERS PROGRAM

Government Accountability Office (GAO). Report to Congressional Committees. April 2010. 43 pages.

<http://www.gao.gov/new.items/d10486.pdf>

In July and August 2009, the federal government implemented the Consumer Assistance to Recycle and Save (CARS) program, or "Cash for Clunkers," a temporary vehicle retirement program that offered consumers a monetary credit (\$3,500 or \$4,500) to trade in an older vehicle for a new, more fuel-efficient one. Members of Congress and administration officials articulated two broad objectives for the CARS program: help stimulate the economy and put more fuel-efficient vehicles on the road. The program achieved these broad objectives; however, the extent to which it did so is uncertain. This report examines: what is known to date about the extent to which the CARS program achieved its objectives; what stakeholders' experiences were with the CARS program; and how the CARS program compares to other selected domestic and international vehicle retirement programs.

FEDERAL CLIMATE CHANGE PROGRAMS: FUNDING HISTORY AND POLICY ISSUES

Congressional Budget Office (CBO). March 2010. 31 pages.

<http://www.cbo.gov/ftpdocs/112xx/doc11224/03-26-ClimateChange.pdf>

In recent years, the federal government has allocated several billion dollars annually for projects to expand the understanding of climate change or to reduce carbon dioxide and other greenhouse gas (GHG) emissions. Most of that spending is done by the Department of Energy (DOE) and by the National Aeronautics and Space Administration (NASA), although a dozen other federal agencies also participate. The work is coordinated by committees in the Executive Office of the President. The effort has included funding science and technology, creating tax preferences, and assisting other countries in their attempts to curtail greenhouse gas emissions. This Congressional Budget Office (CBO) study examines the government's commitment of resources to those purposes. It presents information on current spending and analyzes recent patterns and trends in spending.

ENERGY STAR PROGRAM: COVERT TESTING SHOWS THE ENERGY STAR PROGRAM CERTIFICATION PROCESS IS VULNERABLE TO FRAUD AND ABUSE

Government Accountability Office (GAO). Report to the Ranking Member, Committee on Homeland Security and Governmental Affairs, U.S. Senate. March 2010. 27 pages.

<http://www.gao.gov/new.items/d10470.pdf>

American consumers, businesses, and federal agencies rely on the Energy Star program to identify products that decrease greenhouse emissions and lower energy costs. In addition, the federal government and various states offer tax credits and other incentives to encourage the use of energy-efficient products including Energy Star products. Specifically, approximately \$300 million from the American Recovery and Reinvestment Act will be used for state rebate programs on energy-efficient products. The Energy Star program, which began in 1992, is overseen jointly by the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA). Given the millions of dollars allocated to encourage use of Energy Star products and concerns that the Energy Star program is vulnerable to fraud and abuse, GAO was asked to conduct proactive testing to obtain Energy Star partnership status for bogus companies and submit fictitious products for Energy Star certification.

CLIMATE CHANGE: OBSERVATIONS ON OPTIONS FOR SELLING EMISSIONS ALLOWANCES IN A CAP-AND-TRADE PROGRAM

Government Accountability Office (GAO). Report to the Chairman, Committee on Finance, U.S. Senate. February 2010. 41 pages.

<http://www.gao.gov/new.items/d10377.pdf>

Congress is considering proposals for market-based programs to limit greenhouse gas emissions. Many proposals involve creating a cap-and-trade program, in which an overall emissions cap is set and entities covered by the program must hold tradable permits -- or "allowances" -- to cover their emissions. According to the Congressional Budget Office (CBO), the value of these allowances could total \$300 billion annually by 2020. The government could either sell the allowances, give them away for free, or some combination of the two. Some existing cap-and-trade programs have experience selling allowances. This report is part of GAO's response to a request to review climate change policy options. It describes the implications of different methods for selling allowances, given available information and the experiences of selected programs. This report contains no recommendations.

VEHICLE FUEL ECONOMY: NHTSA AND EPA'S PARTNERSHIP FOR SETTING FUEL ECONOMY AND GREENHOUSE GAS EMISSIONS STANDARDS IMPROVED ANALYSIS AND SHOULD BE MAINTAINED

Government Accountability Office (GAO). Report to the Chairman, Subcommittee on Energy and Environment, Committee on Energy and Commerce, U.S. House of Representatives. February 2010. 64 pages.

<http://www.gao.gov/new.items/d10336.pdf>

In May 2009, the U.S. administration announced plans to increase the Department of Transportation's (DOT) National Highway Traffic Safety Administration's (NHTSA) corporate average fuel economy (CAFE) standards and establish the Environmental Protection Agency's (EPA) greenhouse gas (GHG) emissions standards for vehicles. NHTSA redesigned CAFE standards for light trucks for model years 2008 through 2011, and some experts raised questions about the rigor of the computer modeling NHTSA used to develop these standards. GAO was asked to review: the design of NHTSA and EPA's proposed standards; how they are collaborating to set these standards; improvements compared to a previous rulemaking, if any, NHTSA made to the modeling; and the extent to which NHTSA analyzed the effects of past light truck standards and the accuracy of data used to set them.

GREEN ECONOMY

MEASURING THE GREEN ECONOMY

Economics and Statistics Administration. U.S. Department of Commerce. April 2010. 50 pages.

<http://www.esa.doc.gov/GreenEconomyReport/GreenReport.pdf>

Green products and services comprised 1% to 2% of the total private business economy in 2007. The number of green jobs was also found to be modest, ranging from about 1.8 million jobs to 2.4 million jobs. These jobs constituted between 1.5% and 2.0 % of total private sector employment in 2007. Green products accounted for about the same share of employment in the manufacturing sector as in the services sector. The analysis in this report provides a starting point for measuring future progress as the green economy grows in the United States.

ENVIRONMENTAL PROTECTION AND CONSERVATION

REMARKS ON WORLD ENVIRONMENT DAY

Hillary Rodham Clinton, Secretary of State. Washington, DC. June 5, 2010.

<http://www.state.gov/secretary/rm/2010/06/142737.htm>

Today, the United States is learning firsthand how fragile our ecosystems are and how quickly a treasured landscape can become endangered. As President Obama recently stated, protecting the earth's biodiversity, be it in the Gulf of Mexico or elsewhere, is a responsibility all of us share. The urgency and scope of our shared responsibility is reflected in this year's theme, "Many species, one planet, one future." It is also reflected in the commitment of the United States to building global partnerships to preserve the earth's rich biodiversity.

U.S. LEADERSHIP IN THE INTERNATIONAL WHALING COMMISSION AND H.R. 2455, THE INTERNATIONAL WHALE CONSERVATION AND PROTECTION ACT OF 2009

Monica Medina, U.S. Commissioner to the International Whaling Commission (IWC) and Principal Deputy Under Secretary for Oceans and Atmosphere, National Oceanic and Atmospheric Administration (NOAA). Testimony before the Subcommittee on International Relations, Human Rights and Oversight, and Subcommittee on Asia, the Pacific and the Global Environment, Committee on Foreign Affairs, U.S. House of Representatives. May 6, 2010. 4 pages.

<http://www.legislative.noaa.gov/Testimony/Medina050610.pdf>

The goal of the Obama Administration is to conserve whales and preserve the IWC as the international forum for resolving current whale conservation issues, coordinating critical research, and addressing emerging issues for whales, such as climate change and ocean noise. The Administration reaffirms its unwavering support for the commercial whaling moratorium and believes that lethal scientific whaling is unnecessary in modern whale conservation management. Although the new Administration began while the "Future of the IWC" process was well underway, it fully understands the complexities of, and concerns regarding, this process and the key issues facing the IWC. This testimony provides background information on the IWC, discusses the main issues currently confronting the IWC, and explains the status of the "Future of the IWC" process, including the current proposal by the Chair and Vice-Chair of the Commission.

ONGOING EFFORTS WITHIN THE INTERNATIONAL WHALING COMMISSION (IWC) REGARDING ITS FUTURE

David A. Balton, Deputy Assistant Secretary, Bureau of Oceans and International Environmental and Scientific Affairs, U.S. Department of State. Testimony before the Subcommittee on International Relations, Human Rights and Oversight, and Subcommittee on Asia, the Pacific and the Global Environment, Committee on Foreign Affairs, U.S. House of Representatives. May 6, 2010.

<http://www.state.gov/g/oes/rls/remarks/2010/143167.htm>

The United States is a leader in whale conservation and continues to view the IWC as the preeminent organization to coordinate critical cetacean research, to study emerging threats to whales and their habitat and to resolve current whale conservation issues. Unfortunately, divergent views within the IWC membership have for many years prevented real progress on these important issues. This testimony offers the perspective of the Department of State on this issue, puts this issue in the context of the broader foreign policy of the United States, and describes the effect this stalemate in the IWC has on otherwise fruitful diplomatic relationships.

SAFE DRINKING WATER ACT (SDWA): SELECTED REGULATORY AND LEGISLATIVE ISSUES

Mary Tiemann. Congressional Research Service (CRS). April 22, 2010. 27 pages.

http://assets.opencrs.com/rpts/RL34201_20100422.pdf

Much progress has been made in assuring the quality of public water supplies since the Safe Drinking Water Act (SDWA) was first enacted in 1974. Public water systems must meet extensive regulations, and water utility management has become a much more complex and professional endeavor. The Environmental Protection Agency (EPA) has regulated some 91 drinking water contaminants, and more regulations are pending. In 2007, the number of community water systems reporting no violations of drinking water standards was 89.5%. Despite nationwide progress in providing safe drinking water, an array of issues and challenges remain. Recent issues have involved infrastructure funding needs, regulatory compliance issues, and concerns caused by detections of unregulated contaminants in drinking water, such as perchlorate and pharmaceuticals and personal care products (PPCPs). Another issue involves the adequacy of existing regulations and EPA's pace in reviewing and potentially revising older standards.

OCEAN ACIDIFICATION: A NATIONAL STRATEGY TO MEET THE CHALLENGES OF A CHANGING OCEAN

The National Academy of Sciences. April 22, 2010. 2 pages.

http://dels.nas.edu/resources/static-assets/materials-based-on-reports/reports-in-brief/ocean_acidification_key_findings_final.pdf

The ocean has absorbed a significant portion of all human-made carbon dioxide emissions, benefiting society by moderating the rate of climate change, but also causing unprecedented changes to ocean chemistry. Carbon dioxide taken up by the ocean decreases the pH of the water and leads to a suite of chemical changes collectively known as ocean acidification. The long term consequences of ocean acidification are not known, but are expected to result in changes in many ecosystems and the services they provide to society. This report, requested by Congress, reviews the current state of knowledge and identifies gaps in understanding.

REMARKS ON WORLD WATER DAY

Hillary Rodham Clinton, Secretary of State. National Geographic Society, Washington, DC. March 22, 2010.

<http://www.state.gov/secretary/rm/2010/03/138737.htm>

Experts predict that by 2025, just 15 years from now, nearly two-thirds of the world's countries will be water-stressed. Many sources of freshwater will be under additional strain from climate change and population growth. And 2.4 billion people will face absolute water scarcity -- the point at which a lack of water threatens social and economic development. Access to reliable supplies of clean water is a matter of human security. It's also a matter of national security. And that's why President Obama and I recognize that water issues are integral to the success of many of our major foreign policy initiatives.

ENVIRONMENTAL HEALTH: OPPORTUNITIES FOR GREATER FOCUS, DIRECTION, AND TOP-LEVEL COMMITMENT TO CHILDREN'S HEALTH AT EPA

John B. Stephenson, Director, Natural Resources and Development. Government Accountability Office (GAO). Testimony before the Committee on Environment and Public Works, U.S. Senate. March 17, 2010. 12 pages.

<http://www.gao.gov/new.items/d10545t.pdf>

EPA's mission is to protect human health and the environment. As a result of mounting evidence about the special vulnerabilities of the developing fetus and child, the federal government and EPA took several

bold steps to make children's environmental health a priority in the late 1990s. In light of concerns about EPA's focus on children, Congress asked that GAO assess the agency's consideration of children's environmental health. This statement summarizes highlights from GAO's report that addresses the extent to which EPA has institutionalized the protection of children's health from environmental risks through agency priorities, strategies, and rulemakings, including implementation of Executive Order 13045; the use of key offices and other child-focused resources, such as the Office of Children's Health and the Advisory Committee; and involvement in federal interagency efforts to protect children from current and emerging environmental threats. [Please note: the report described in this testimony is available at <http://www.gao.gov/new.items/d10205.pdf>].

POLLUTION AND WASTE

OIL SPILLS IN U.S. COASTAL WATERS: BACKGROUND, GOVERNANCE, AND ISSUES FOR CONGRESS

Jonathan L. Ramseur. Congressional Research Service (CRS). April 30, 2010. 38 pages.

http://assets.opencrs.com/rpts/RL33705_20100430.pdf

During the past two decades, while U.S. oil imports and consumption have steadily risen, oil spill incidents and the volume of oil spilled have not followed a similar course. In general, the annual number and volume of oil spills have shown declines -- in some cases, dramatic declines. The 1989 Exxon Valdez spill in Alaskan waters played a large role in stimulating actions that contributed to this trend, particularly the decrease in the annual spill volumes. The Exxon Valdez spill highlighted the need for stronger legislation, inflamed public sentiment, and spurred Congress to enact comprehensive oil spill legislation, resulting in the Oil Pollution Act of 1990 (P.L. 101-380). This law expanded and clarified the authority of the federal government and created new oil spill prevention and preparedness requirements. This report reviews the history and trends of oil spills in the United States; identifies the legal authorities governing oil spill prevention, response, and cleanup; and examines the threats of future oil spills in U.S. coastal waters.

ENVIRONMENTAL CONTAMINATION: INFORMATION ON THE FUNDING AND CLEANUP STATUS OF DEFENSE SITES

Anu Mittal, Director, Natural Resources and Environment. Government Accountability Office (GAO). Testimony before the Subcommittee on Military Construction, Veterans Affairs, and Related Agencies, Committee on Appropriations, U.S. House of Representatives. March 17, 2010. 18 pages.

<http://www.gao.gov/new.items/d10547t.pdf>

Under the Defense Environmental Restoration Program (DERP), the Department of Defense (DOD) is responsible for cleaning up about 5,400 sites on military bases that have been closed under the Base Realignment and Closure (BRAC) process, as well as 21,500 sites on active bases and over 4,700 formerly used defense sites (FUDS), properties that DOD owned or controlled and transferred to other parties prior to October 1986. The cleanup of contaminants, such as hazardous chemicals or unexploded ordnance, at BRAC bases has been an impediment to the timely transfer of these properties to parties who can put them to new uses. This testimony is based on prior work and discusses information on how DOD allocates cleanup funding at all sites with defense waste and BRAC cleanup status. It also summarizes other key issues that GAO has identified in the past that can impact DOD's environmental cleanup efforts.

SUPERFUND: INFORMATION ON COST AND OTHER ISSUES RELATED TO THE CLEANUP OF THE FEDERAL CREOSOTE SITE

Government Accountability Office (GAO). Report to Congressional Requesters. February 2010. 73 pages.

<http://www.gao.gov/new.items/d10277.pdf>

In the 1990s, creosote was discovered under a residential neighborhood in Manville, New Jersey. Creosote, a mixture of chemicals, is used to preserve wood products, such as railroad ties. Some of the chemicals in creosote may cause cancer, according to the Environmental Protection Agency (EPA). EPA found that creosote from a former wood-treatment facility (known as the Federal Creosote site) had contaminated soil and groundwater at the site. Under the Superfund program -- the federal government's principal program to clean up hazardous waste -- EPA assessed site risks, selected remedies, and worked with the U.S. Army Corps of Engineers to clean up the site. In this context, GAO was asked to examine how EPA assessed risks and selected remedies for the site, and what priority EPA gave to site cleanup; what factors contributed to the difference between the estimated and actual costs; and how EPA and the Corps divided responsibilities for site work.

THINK TANKS AND RESEARCH CENTERS

The opinions expressed in these publications do not necessarily reflect the views of the U.S. Government

CLIMATE CHANGE -- INTERNATIONAL NEGOCIATIONS

COMPARING CLIMATE COMMITMENTS: A MODEL-BASED ANALYSIS OF THE COPENHAGEN ACCORD

Warwick J. McKibbin, Adele C. Morris and Peter J. Wilcoxon. The Brookings Institution. May 27, 2010. 43 pages.

http://www.brookings.edu/~media/Files/rc/papers/2010/0527_copenhagen/0527_climate_committments_mckibbin_morris_wilcoxon.pdf

The political accord struck by world leaders at the United Nations negotiations in Copenhagen in December 2009 allows participating countries to express their greenhouse gas commitments in a variety of ways. For example, developed countries promised different percent emissions reductions relative to different base years by 2020. China and India committed to reducing their emissions per unit of gross domestic product (GDP) relative to 2005 by 40 and 20 percent respectively. Such flexibility promotes consensus by allowing each country to use its preferred commitment formulation. However, the disparate approaches and widely varying baseline trends across different economies complicate comparing the likely emissions reductions and economic efforts required to achieve the commitments.

THE SHAPE OF INTERNATIONAL AGREEMENTS: POLITICAL ECONOMY ANALYSIS OF THE COPENHAGEN ACCORD

Raymond J. Kopp. Resources for the Future (RFF). Issue Brief 10-09. May 2010. 12 pages.

<http://www.rff.org/RFF/Documents/RFF-IB-10-09.pdf>

Whether one sees Copenhagen as an abject failure or a moderate success has a great deal to do with prior expectations. Those who hoped for or expected Copenhagen to produce a successor to the Kyoto

Protocol were disappointed. On the other hand, others viewed Copenhagen as an opportunity to begin crafting an emissions limitation agreement that includes the world's largest emitters and establishes funding and technology transfers to aid the adaptation of the most vulnerable nations. These people see Copenhagen as progress toward that goal.

GUIDELINES FOR REPORTING INFORMATION ON CLIMATE FINANCE

Dennis Tirpak, Athena Ballesteros, Kirsten Stasio and Heather McGray. World Resources Institute (WRI). Working Paper. May 2010. 32 pages.

http://pdf.wri.org/working_papers/guidelines_for_reporting_information_on_climate_finance.pdf

The importance of reporting and reviewing financial information has become an increasingly urgent issue in the international climate negotiations. In the Copenhagen Accord agreed to by over 120 countries at the United Nations Climate Change Convention in Copenhagen in 2009, developed countries pledged to provide \$10 billion per year in "fast start" funding over three years (2010-2012) and \$100 billion per year by 2020 for climate adaptation and mitigation. Developing countries want assurances that developed countries are keeping their pledges to provide climate finance. However, Parties have yet to determine how this funding will be tracked and what, if any, common reporting format will be required. This Working Paper looks at current systems to report climate finance and proposes ways to build on these existing systems in order to implement a common reporting format.

A SEAT AT THE TABLE: INCLUDING THE POOR IN DECISIONS FOR DEVELOPMENT AND ENVIRONMENT

Joseph Foti and Lalanath de Silva. World Resources Institute (WRI). May 2010. 42 pages.

http://pdf.wri.org/a_seat_at_the_table.pdf

Decisions that have significant environmental and social consequences are often made without the involvement of those whose interests are directly at stake. For poor people whose lives and livelihoods often depend on natural resources, and who are therefore most vulnerable to environmental risks, the consequences of exclusion can be especially severe. Weak access to decision-making may expose poor communities to high levels of pollution, remove them from productive land, and deprive them of the everyday benefits provided by natural resources. This report closely examines access rights to environmental decision making in four countries: Cameroon, Paraguay, Philippines, and Sri Lanka.

INTERNATIONAL CLIMATE GOVERNANCE: WILL REDEFINING "INSIDERS" ENABLE GLOBAL PROGRESS?

Nathan Hultman. The Brookings Institution. April 30, 2010.

http://www.brookings.edu/opinions/2010/0430_climate_governance_hultman.aspx

After the fizzle of Copenhagen, international climate change discussions entered a dull hibernation, in part because the intense and largely unsuccessful negotiations sapped the previous momentum of cooperation between governments, NGOs and other groups trying to strike a post-Kyoto global climate change bargain. After this convalescence, climate policy discussions are now restarting both internationally and in the United States. Yet, despite some superficially obvious reasons for optimism -- such as the global economic recovery, and the on-again, off-again prospect of U.S. climate legislation -- there is still no clarity on the path toward a global climate agreement. Many vexing technical issues remain unresolved, such as reducing deforestation, reforming the Clean Development Mechanism, funding adaptation, transferring technology and more. But the major and familiar challenge that has re-emerged is the longstanding argument about who should be negotiating global climate policy.

ROOTS OF COPENHAGEN FAILURE: NATURE DOES NOT RECOGNIZE NATIONS

Bo Ekman. Yale Center for the Study of Globalization. March 24, 2010.

<http://yaleglobal.yale.edu/content/roots-copenhagen-failure-nature-does-not-recognize-nations>

The Copenhagen climate summit was not just a failure to achieve meaningful results to avert climate change, it was also a failure for national actors to find solutions to supranational problems, according to the author. Indeed, the summit was likely to fail from the beginning not simply because national self-interest often trumps global common interest, but because the structure of the world order is not designed to solve environmental problems that know no national boundary. Such a criticism could extend to other global problems as well, such as the financial crisis or biodiversity. What is missing is a world view that comprehends the interconnected nature of most problems plus an image of how the world should be structured to allow for peaceful co-existence amid relentless globalization. What is missing, according to the author, is an understanding of how humanity can live peacefully within nature.

HARNESSING INTERNATIONAL INSTITUTIONS TO ADDRESS CLIMATE CHANGE

Katherine Michonski and Michael A. Levi. Council on Foreign Relations (CFR). Working Paper. March 2010. 27 pages.

http://www.cfr.org/content/publications/attachments/IIGG_WorkingPaper_2_ClimateChange.pdf

Climate change has become a top-tier subject for international negotiation and debate, not only for environment specialists but also for people and institutions focused on economics, development, energy, technology, and other pressing international issues. Yet most discussions of institutions and governance for climate change remain narrow. Observers often focus on the negotiation process under the United Nations Framework Convention on Climate Change (UNFCCC), including the Kyoto Protocol (and more recently the Copenhagen Accord), along with its associated institutions, equating success and failure in combating climate change with success and failure in those arenas. Efforts to broaden the multilateral governance discussion beyond climate-specific forums still tend to emphasize how climate efforts fit within broader environment challenges and institutions. The authors address this here by exploring a wide range of multilateral institutions that either have significant roles in dealing with climate change or that might have such roles in the future. They focus in particular on institutions that are not dedicated solely to dealing with climate change.

CLIMATE CHANGE - GLOBAL ISSUES

EMERGING GREEN TECHNOLOGY POSES THREAT OF TRADE WARS

Bruce Stokes. Yale Center for the Study of Globalization. May 14, 2010.

<http://yaleglobal.yale.edu/content/emerging-green-technology-poses-threat-trade-wars>

Smart investors recognize that cheap oil won't last forever and emerging green technologies could revolutionize everyday business as much as computers did. As with any new technology, nations compete to perfect and produce new products for the world, making lots of money along the way. But the author warns that the global trading system lacks adequate regulations on energy issues -- and the result could be trade wars. Already, the US has blocked purchase of wind turbines from China to protect US jobs, and China has imposed quotas and export bans on needed materials to corner the market on some alternative energies. Deliberate domestic and global industrial policies could speed development of these technologies. Failing that, ensuing trade wars could delay, even thwart, protection of the planet.

PAYING FOR MITIGATION: A MULTIPLE COUNTRY STUDY

Various contributors. Resources for the Future (RFF). Discussion Paper 10-12. May 2010. 25 pages.

<http://www.rff.org/RFF/Documents/EfD-DP-10-12.pdf>

Unique survey data from a contingent valuation study conducted in three different countries (China, Sweden, and the United States) were used to investigate the ordinary citizen's willingness to pay (WTP) for reducing CO₂ emissions. The authors found that a large majority of the respondents in all three countries believe that the mean global temperature has increased over the last 100 years and that humans are responsible for the increase. A smaller share of Americans, however, believes these statements, when compared to the Chinese and Swedes. A larger share of Americans is also pessimistic and believes that nothing can be done to stop climate change. The authors also found that Sweden has the highest WTP for reductions of CO₂, while China has the lowest.

ROLE OF OFFSETS IN GLOBAL AND DOMESTIC CLIMATE POLICY

Raymond J. Kopp. Resources for the Future (RFF). Issue Brief 10-11. May 2010. 15 pages.

<http://www.rff.org/RFF/Documents/RFF-IB-10-11.pdf>

Greenhouse gas (GHG) offsets are a mechanism by which mitigation policy can achieve emissions reductions where they are least expensive in much the same manner as emissions trading. Offsets incentivize cost-effective reductions from sources that generally have no obligations to reduce emissions and thereby can increase the economic efficiency of GHG mitigation policy at the national, regional, and global scale. Whether they will indeed play this important role has a great deal to do with the nature of the mitigation policy design. This paper has two objectives. First, it provides definitions and a taxonomy that will be helpful in sorting through the complex offset landscape. With this taxonomy in mind, the paper then considers the role offsets could play given likely states of the world with respect to mitigation policy.

ASSESSING THE BENEFITS OF AVOIDED CLIMATE CHANGE: COST-BENEFIT ANALYSIS AND BEYOND

Pew Center on Global Climate Change. Workshop Proceedings. May 2010. 252 pages.

<http://www.pewclimate.org/docUploads/benefits-workshop-full-report.pdf>

On March 16-17, 2009, the Pew Center on Global Climate Change convened an expert workshop to examine the state of the art, limitations, and future development needs for analyzing the benefits of avoided climate change. Approximately 80 people from academe, federal agencies, and nongovernmental organizations participated. Drawing from the environmental economics, impacts and vulnerability, and risk analysis communities, the workshop sought to glean insights on how to better quantify the benefits of reducing greenhouse gas emissions. The main objectives were to inform the development of a set of practical recommendations that decision makers could employ in the near-term and to outline new approaches to improve decision-making tools over time.

CLIMATE CHANGE UNCERTAINTY QUANTIFICATION: LESSONS LEARNED FROM THE JOINT EUUSNRC PROJECT ON UNCERTAINTY ANALYSIS OF PROBABILISTIC ACCIDENT CONSEQUENCE CODES

Roger M. Cooke and G.N. Kelly. Resources for the Future (RFF). Discussion Paper 10-29. May 2010.

<http://www.rff.org/RFF/Documents/RFF-DP-10-29.pdf>

Between 1990 and 2000, the U.S. Nuclear Regulatory Commission and the Commission of the European Communities conducted a joint uncertainty analysis of accident consequences for nuclear power plants. This study remains a benchmark for uncertainty analysis of large models involving high risks with high public visibility, and where substantial uncertainty exists. The study set standards with regard to structured expert judgment, performance assessment, dependence elicitation and modeling and uncertainty propagation of high dimensional distributions with complex dependence. The integrated assessment models for the economic effects of climate change also involve high risks and large uncertainties, and interest in conducting a proper uncertainty analysis is growing. This article reviews the EU-USNRC effort and extracts lessons learned, with a view toward informing a comparable effort for the economic effects of climate change.

CLIMATE CRISIS, CREDIT CRISIS: THE QUEST FOR GREEN GROWTH

Kemal Dervis, Abigail Jones, Karen Kornbluh and Sarah Puritz. The Brookings Institution. April 22, 2010. 40 pages.

http://www.brookings.edu/~media/Files/rc/reports/2010/0422_climate_change_poverty/0422_climate_change_poverty.pdf

As the global economy struggles to sustain its recovery from the deepest recession in sixty years, another challenge looms large: preventing the Earth from warming more than 3.6 °F, widely considered by climate experts as the acceptable level to reduce the risk of irreversible global damage resulting from climate change. To meet these challenges, the authors contend that we must look beyond our national borders, recognize that we face an uncertain future, and collaborate to ensure our collective well-being.

ADAPTING FOR FUTURE RESOURCE CHALLENGES: FOOD, WATER, AND ENERGY

Rachel Posner and Sarah Ladislaw. Center for Strategic and International Studies (CSIS). April 12, 2010. 8 pages.

http://csis.org/files/publication/100412_Posner_FutureResourceChallenges.pdf

The linkages between adaptation and mitigation efforts are extensive, and smart policy must consider both when developing a risk management approach to dealing with climate change. Nowhere are these linkages more important than in the already stressed natural resource and infrastructure systems that govern food, water, and energy production. Climate change will undoubtedly have an impact on these systems in three fundamental ways: direct effects of a changing environment, human responses and measures to adapt these systems in the face of emerging stress factors, and the societal efforts to reduce the emissions profile of these activities. In addition, it is important to consider the geopolitical implications of these societal responses. The complex nature of these linkages with climate change and among the three sectors require a careful review and consideration of how companies, policymakers, and society can best prepare to respond to these looming challenges.

CUTTING CLIMATE CHANGE'S GORDIAN KNOT: A NEW WAY TO IMPROVE HEALTH AND LOWER THE RISK OF FUTURE CLIMATE CHANGE

John C. Topping Jr. Yale Center for the Study of Globalization. April 2, 2010.

<http://yaleglobal.yale.edu/content/cutting-climate-changes-gordian-knot>

Black carbon, commonly known as soot, a byproduct of incomplete combustion, is a major contributor to global warming. It also can have significant, deleterious effects on one's health. Now, several environmental groups are asking the US Environmental Protection Agency to regulate black carbon under the Clean Water Act on the grounds that it affects sea ice and glaciers. While this proposal may

have little chance of success, the author notes that it is only one of many efforts around the world to reduce black carbon. Building cleaner cooking stoves in the developing world and retrofitting jeepneys, a modified jeep commonly used for public transportation in the Philippines, are some possibilities. But the hurdle remains that there are few incentives to reduce black carbon emissions because they are excluded from many carbon trading programs, like the one in Europe. Climate negotiators have an opportunity to improve global health and reduce the harmful impacts of global warming by drawing black carbon into climate schemes.

GETTING READY: A REVIEW OF THE WORLD BANK FOREST CARBON PARTNERSHIP FACILITY READINESS PREPARATION PROPOSALS

Crystal Davis, Smita Nakhooda and Florence Daviet. World Resources Institute (WRI). Working Paper. March 2010. 34 pages.

http://pdf.wri.org/working_papers/getting_ready_2010-03-23.pdf

The World Bank's Forest Carbon Partnership Facility (FCPF) is a leading multilateral effort underway to prepare developing countries to reduce emissions from deforestation and forest degradation and broader efforts to improve forest management (REDD+). More than US\$150 million has been committed to the Facility. The FCPF is shaping international understanding about what it means to be "ready" for REDD+ and what types of activities and support are needed. Experiences from the Facility are also informing negotiations under the UN Framework Convention on Climate Change (UNFCCC) about a phased approach to REDD+. This working paper reviews documentation detailing national REDD initiatives emerging from the FCPF in order to assess how these efforts are dealing with fundamental issues of forest governance that underpin deforestation and forest degradation problems in REDD countries.

THE CLEAN TECHNOLOGY FUND: INSIGHTS FOR DEVELOPMENT AND CLIMATE FINANCE

Smita Nakhooda. World Resources Institute (WRI). Working Paper. March 2010. 19 pages.

http://pdf.wri.org/working_papers/clean_technology_fund.pdf

The \$6.3 billion Climate Investment Funds (CIFs) were established in January 2008 to operate until 2012, and are administered by the World Bank Group. They include a Clean Technology Fund (CTF) and a Strategic Climate Fund (SCF) that supports several lines of programming including a Pilot Program on Climate Resilience (PPCR), a Forest Investment Program (FIP), and a Scaling Up Renewable Energy Program (SREP). This working paper summarizes key innovations and challenges of the Clean Technology Fund. It analyzes the investment plans that the Fund has endorsed to date, and makes the case for greater emphasis on institutional capacity and governance in program design.

SOUTHERN FORESTS FOR THE FUTURE

Various contributors. World Resources Institute (WRI). March 2010. 88 pages.

http://pdf.wri.org/southern_forests_for_the_future_lowres.pdf

At a time when the world is concerned about climate change, the forests of the southern United States are part of the answer. Comprising approximately 29 percent of the nation's forested land, southern forests store vast amounts of carbon. In 2007, U.S. forests absorbed carbon dioxide, the leading greenhouse gas, equivalent to 13 percent of gross national greenhouse gas emissions. Southern forests are a vital natural asset for the region, the country, and the world. The long-term extent and health of southern forests, however, face a number of challenges. Climate change, invasive species, and pest and pathogen outbreaks threaten to alter forest composition. Millions of forested acres in the region were lost during

the suburbanization boom of the 1990s, and suburban encroachment is projected to continue reducing and fragmenting forest acreage. When the U.S. economy recovers, decoupling new housing development from forest clearance will be an important challenge to address.

DEVELOPMENT FUNDING DONE RIGHT: HOW TO ENSURE MULTILATERAL DEVELOPMENT BANKS FINANCE CLEAN AND RENEWABLE ENERGY PROJECTS TO COMBAT GLOBAL WARMING

Kari Manlove, Andrew Light, Kate Gordon and Richard Caperton. Center for American Progress. March 2010. 28 pages.

http://www.americanprogress.org/issues/2010/03/pdf/world_bank.pdf

The World Bank Group is the largest and most important multilateral development bank providing critical funding across the developing world to fight poverty and boost economic growth and prosperity. Yet the World Bank and its affiliates direct more than twice as much financing toward fossil fuel-based energy projects than they do toward clean energy and energy efficiency projects despite the global warming crisis that threatens the developing world most severely. The developed nations of the world, to varying degrees, are shifting away from fossil fuel-based energy toward clean energy in order to contribute to global climate stability, a more secure energy future, and more broad-based economic prosperity. While developing countries are also making great strides in this direction, much more needs to be done.

CLIMATE CHANGE - DOMESTIC ISSUES

CLIMATE DEPENDENCIES AND RISK MANAGEMENT: MICROCORRELATIONS AND TAIL DEPENDENCE

Roger Cooke and Carolyn Kousky. Resources for the Future (RFF). Issue Brief 10-13. May 2010. 12 pages.

<http://www.rff.org/RFF/Documents/RFF-IB-10-13.pdf>

Microcorrelations are tiny correlations between variables (for example, insurance policies, mortgages, and bonds) that are easily overlooked but can undermine traditional diversification strategies. Ignoring these could lead to undercapitalization and unintended risk taking. Tail dependence refers to the tendency of dependence between variables to concentrate in the tails of a distribution, or in the extreme values. More simply, it means bad things can happen together. Ignoring tail dependence can also lead to undercapitalization and unintended risk taking. Mitigation strategies should target tail dependencies. Further research should investigate shifts in patterns of microcorrelations and tail dependence induced by climate changes.

CLIMATE ADAPTATION POLICY: THE ROLE AND VALUE OF INFORMATION

Molly K. Macauley. Resources for the Future (RFF). Issue Brief 10-10. May 2010. 16 pages.

<http://www.rff.org/RFF/Documents/RFF-IB-10-10.pdf>

Providing information to serve national interests is a longstanding role of government in supplying public goods. As part of government's role in climate adaptation policy, information will serve a wide range of purposes and no doubt leverage huge financial resources. Information on changes in sea level, variability of temperatures, and the severity of drought, for instance, will be pivotal in leveraging public-sector resources in managing infrastructure. Public-health surveillance systems can incorporate information

about vector-borne disease, extreme weather events, and climate-influenced changes in aeroallergens and other types of air quality. Precipitation, soil moisture, snow melt, and other indicators will signal when actions may be needed to protect terrestrial ecosystems and manage freshwater resources. Data on ocean salinity and temperature will help in understanding and predicting the effects of climate change for marine resources. Climate data can assist private industry as well, including agriculture and livestock management and insurance markets.

COVERAGE OF GREENHOUSE GAS EMISSIONS FROM PETROLEUM USE UNDER CLIMATE POLICY

Joel Bluestein and Jessica Rackley. Pew Center on Global Climate Change. April 2010. 24 pages.

<http://www.pewclimate.org/docUploads/coverage-petroleum-sector-emissions.pdf>

The petroleum sector is a significant source of U.S. greenhouse gas (GHG) emissions. In 2007, GHG emissions from the combustion of petroleum made up 38 percent of total U.S. GHG emissions. This paper provides an overview of the petroleum sector, identifying the key entities and associated facilities in the petroleum supply chain. There is also information on GHG emissions from the petroleum sector, a summary of which emission sources are currently subject to a fuel tax and which are not, and an evaluation of the implications of adopting an alternative point of regulation for GHG emissions from petroleum.

GETTING CARS OFF THE ROAD: THE COST-EFFECTIVENESS OF AN EPISODIC POLLUTION CONTROL PROGRAM

Maureen L. Cropper, Yi Jiang, Anna Alberini and Patrick Baur. Resources for the Future (RFF).

Discussion Paper 10-25. April 2010. 38 pages.

<http://www.rff.org/RFF/Documents/RFF-DP-10-25.pdf>

Ground-level ozone remains a serious problem in the United States. Because ozone nonattainment is a summer problem, episodic rather than continuous controls of ozone precursors are possible. The authors evaluate the costs and effectiveness of an episodic scheme that requires people to buy permits to drive on high-ozone days. They estimate the demand function for permits based on a survey of 1,300 households in the Washington, DC, metropolitan area. Assuming that all vehicle owners comply with the scheme, the permit program would reduce volatile organic compounds (VOCs) by 50 tons and nitrogen oxides (NOx) by 42 tons per Code Red day at a permit price of \$75. Allowing for noncompliance by 15 percent of respondents reduces the effectiveness of the scheme to 39 tons of VOCs and 33 tons of NOx per day. The cost per ozone season of achieving these reductions is approximately \$9 million (2008 USD). This compares favorably with permanent methods of reducing VOCs that cost \$645 per ton per year.

U.S. STRATEGIC INTERESTS IN THE ARCTIC: AN ASSESSMENT OF CURRENT CHALLENGES AND NEW OPPORTUNITIES FOR COOPERATION

Heather Conley and Jamie Kraut. Center for Strategic and International Studies (CSIS). April 2010. 33 pages.

http://csis.org/files/publication/100426_Conley_USStrategicInterests_Web.pdf

The effects of climate change have launched the Arctic Circle to the forefront of geopolitical calculations, potentially transforming the region into a commercial hub fraught both with environmental concerns and complex challenges that have direct implications for U.S. national security. According to the U.S. Department of Defense's 2010 Quadrennial Defense Review, climate change acts as an "instability accelerant" that will play a significant role in "shaping the future security environment." The

melting of the northern polar ice has dramatically altered this once static geographic and oceanic region and is responsible for the new-found profitability and geostrategic relevance of the region. Access to oil, gas, minerals, fish, and transportation routes, formerly locked in by thick ice, are for the first time becoming accessible and viable sources of profit.

PROMOTING THE DIALOGUE: CLIMATE CHANGE AND U.S. GROUND FORCES

Christine Parthemore. Center for a New American Security (CNAS). April 2010. 15 pages.

http://www.cnas.org/files/documents/publications/Promoting_Dialogue_ClimateChange&GroundForces_Parthemore_April2010_code408_workingpaper.pdf

At a time when U.S. ground forces must wage two protracted wars in Iraq and Afghanistan, design overarching visions for future needs and plan and equip accordingly, analyzing how climate change might affect the Army, Marine Corps and National Guard might seem like an abstract exercise. Yet ensuring U.S. security has always required more than just prevailing in current conflicts. It requires understanding and planning for the trends and threats America is likely to face in the future.

BROADENING HORIZONS: CLIMATE CHANGE AND THE U.S. ARMED FORCES

Herbert E. Carmen, Christine Parthemore and Will Rogers. Center for a New American Security (CNAS). April 2010. 112 pages.

http://www.cnas.org/files/documents/publications/CNAS%20Publication_Climate%20Change%20and%20the%20US%20Armed%20Forces_April%2020.pdf

The effects of global climate change are likely to reshape the current and future security environment. Analysts expect changes such as extreme drought, more frequent heat waves, desertification, flooding and extreme weather events. The combined impact of these effects will intertwine with existing political, social, cultural and economic trends, with significant implications for U.S. interests worldwide. Physical changes to the environment may also disrupt U.S. military capabilities and facilities. For instance, military installations or training ranges may experience increased flooding, wildfires or major coastal erosion. Addressing the dual pressures of climate change and energy analyzed in this report will require the Department of Defense, U.S. armed services and combatant commands to explore how they might plan and adapt, help partner nations around the world adapt, and mitigate climate-changing greenhouse gas emissions.

LOST IN TRANSLATION: CLOSING THE GAP BETWEEN CLIMATE SCIENCE AND NATIONAL SECURITY POLICY

Will Rogers and Jay Gullledge. Center for a New American Security (CNAS). April 2010. 58 pages.

http://www.cnas.org/files/documents/publications/Lost%20in%20Translation_Code406_Web_0.pdf

National security leaders now recognize that global climate change is a matter of national security and may even be a defining security challenge of the 21st century. Nonetheless, some national security professionals have yet to fully conceptualize how climate change could impact their areas of responsibility, or whether they need to analyze potential implications at all. What is more, they currently lack the “actionable” data necessary to generate requirements, plans, strategies, training and materiel to prepare for future challenges. Though the scope and quality of available scientific information has improved in recent years, this information does not always reach -- or is not presented in a form that is useful to -- the decision makers who need it. Closing this gap between national security policy makers who consume information and the scientists who produce it is essential for the nation to effectively deal with the national security implications of climate change.

U.S. CLIMATE POLICY: DESPERATELY SEEKING REVENUE

Ted Gayer. The Brookings Institution. March 2, 2010.

http://www.brookings.edu/speeches/2010/0302_revenue_gayer.aspx

There is an economic case for using carbon revenues to offset existing distortionary taxes or to reduce the deficit. A carbon tax or cap-and-trade program increases the price of energy and transportation, which in effect lowers real wages. This decrease in real wages magnifies distortions from pre-existing taxes, such as the income tax. This is known as the tax-interaction effect, and it can mean that a tax on pollution can impose substantial economic costs. The way to reduce these costs is by using the pollution tax revenue to offset economically harmful taxes or deficits. A recent study finds that using climate revenue to reduce marginal income taxes results in GDP costs that are about 33 percent lower than when these revenues are just given away for free.

DRIVING GROWTH: HOW CLEAN CARS AND CLIMATE POLICY CAN CREATE JOBS

Alan Baum and Daniel Luria. Natural Resources Defense Council (NRDC), United Auto Workers and Center for American Progress. March 2010. 20 pages.

<http://www.nrdc.org/energy/files/drivinggrowth.pdf> or

http://www.americanprogress.org/issues/2010/03/pdf/driving_growth.pdf

This study offers two key insights on the nature of clean energy jobs in the automobile sector, each with profound implications for policy makers and the economy. First, this paper documents that saving oil will create good jobs, not in the abstract, but directly by driving demand for specific additional manufactured components. The move to greater fuel economy means greater labor content per vehicle and higher employment across the fleet. By 2020 this analysis shows that, all things being equal, supplying the U.S. automobile market with more efficient cars could provide a net gain of over 190,000 new jobs from improvements to fuel economy alone. The second finding is equally profound. While it is certain that the production of new technology will create demand for workers, where those jobs locate will be the product of policy choices. Of the over 190,000 jobs anticipated by 2020, the number of domestic jobs created could vary greatly. Fewer than 50,000 jobs might go to American workers, or, with different incentives, more than three times that number, as many as 150,000.

ADAPTING TO CLIMATE CHANGE: A CALL FOR FEDERAL LEADERSHIP

Various contributors. Pew Center on Global Climate Change. March 2010. 51 pages.

<http://www.pewclimate.org/docUploads/adaptation-federal-leadership.pdf>

While policy-makers have primarily focused on reducing future emissions of greenhouse gases, there is growing recognition that significant climate change is unavoidable. This report highlights the important role of the federal government in reducing the vulnerability and strengthening the resiliency of the U.S. economy and natural resources in the face of these changes. In addition to managing a significant amount of land and infrastructure that will be affected by climate change, the federal government is uniquely positioned to provide the necessary leadership, guidance, information, and resources. While many efforts to adapt to climate change will occur at the state and local level, the federal government is a critical player in an effective and coordinated approach to climate change adaptation in the United States.

A COMPARISON OF THE CLEAN ENERGY JOBS AND AMERICAN POWER ACT (CEJAP ACT) AND THE CARBON LIMITS AND ENERGY FOR AMERICA'S RENEWAL ACT (CLEAR ACT)

Pew Center on Global Climate Change. Climate Policy Memo #7. March 2010. 3 pages.

<http://www.pewclimate.org/docUploads/policy-memo-cejap-clear-march2010.pdf>

This brief compares key elements of two bills currently under consideration in Congress. The Senate Environment and Public Works Committee passed the Clean Energy Jobs and American Power Act (CEJAP Act) on November 5, 2009. It provides a comprehensive, economy-wide approach to achieving reductions in greenhouse gas emissions by capping emissions, using a combination of auctions and free allocations for distributing allowances, and allowing firms to trade and purchase offsets to reduce compliance costs. It also includes a range of complementary measures aimed at spurring technology development and reducing emissions outside the cap. The second bill, introduced by Sen. Cantwell and Sen. Collins, is the Carbon Limits and Energy for America's Renewal Act (CLEAR Act). Like the CEJAP Act, the CLEAR Act caps greenhouse gas emissions, but the approaches used in these bills differ significantly. The CLEAR Act puts limits on carbon emissions. It auctions all of the allowances with most of the revenue returned to individuals and the remainder allocated to a fund that could be used to support technology, reduce emissions from sources outside the cap, and assist workers, communities or sectors adversely impacted, among other purposes.

ENVIRONMENTAL PROTECTION AND CONSERVATION

AN ASSESSMENT OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY'S NATIONAL ENVIRONMENTAL PERFORMANCE TRACK PROGRAM

Various contributors. Rand Corporation. May 24, 2010. 135 pages.

http://www.rand.org/pubs/technical_reports/2010/RAND_TR732.pdf

The purpose of this study is to assess several aspects of the National Environmental Performance Track (Performance Track) program, a voluntary program run by the U.S. Environmental Protection Agency (EPA) between 2000 and 2009. This study addresses the conceptual basis of the program, its program design, and its implementation. It also examines how Performance Track worked with other federal and state environmental programs. Finally, it assesses, based on Performance Track's experiences, whether voluntary programs have a role, in tandem with other more traditional regulatory approaches, in accelerating improvements in the nation's environment. The study also provides lessons learned that EPA should consider as it moves forward with voluntary programs.

CORPORATE WATER ACCOUNTING: AN ANALYSIS OF METHODS AND TOOLS FOR MEASURING WATER USE AND ITS IMPACTS

Jason Morrison, Peter Schulte and Rita Schenck. Pacific Institute. April 2010. 60 pages.

http://www.pacinst.org/reports/corporate_water_accounting_analysis/corporate_water_accounting_analysis.pdf

Water as a natural resource is facing many challenges at the local, regional, and global levels. Human water use is increasingly having negative impacts on human health, economic growth, the environment, and geopolitical stability. In recent years, concerns over growing water scarcity, lack of access to water to meet basic human needs, degraded ecosystem function, and the implications of climate change on the hydrologic cycle have brought water to the forefront as a strategic concern for companies around the world. Companies' ability to measure and account for their water use and wastewater discharges throughout the value chain is a critical component in their risk assessment and mitigation efforts, as well as their broader ambitions to become responsible water stewards.

ADIEU, ATLANTIC BLUE FIN TUNA? GLOBAL GOVERNANCE HAS FAILED TO PROTECT BIODIVERSITY

Alex David Rogers. Yale Center for the Study of Globalization. March 17, 2010.

<http://yaleglobal.yale.edu/content/adieu-atlantic-blue-fin-tuna>

The Atlantic blue fin tuna risks extinction thanks to overfishing and poor global governance. To add insult to injury, recent proposals to ban all international trade in the fish are being rejected by Japan, the largest consumer. Japan's decision could significantly undermine the Convention on International Trade in Endangered Species (CITES) and deal a blow to conservation efforts globally. Still, Japanese fisheries do not catch many Atlantic blue fin tuna, so upholding the proposed ban will depend on other countries. The larger issue, then, is commitment to preventing over-fishing by CITES members. The track record has been poor with trade exceeding levels recommended to prevent catastrophic decline. The fate of the Atlantic blue fin tuna, then, represents not only the erosion of biodiversity, but also the erosion of global governance.

THE INTERNATIONAL TRADE OF SHARK FINS: ENDANGERING SHARK POPULATIONS WORLDWIDE

Oceana. March 2010. 4 pages.

http://na.oceana.org/sites/default/files/o/fileadmin/oceana/uploads/europe/downloads/OCEANA_international_trade_shark_fins_english.pdf

The harvest for international fin trade is one of the greatest threats to the shark species proposed for inclusion in CITES Appendix II. If gone unchecked, the high demand for shark fins will undoubtedly lead to further declines in the populations of these apex predators around the world. Inclusion in CITES Appendix II will ensure that international commercial trade of specimens and their fins does not put the species in danger. Export permits and "non-detriment findings" are necessary for species included in Appendix II and are only authorized if the specimen was legally obtained and if the export will not be detrimental to the survival of the species

POLLUTION

A TAXONOMY OF OIL SPILL COSTS: WHAT ARE THE LIKELY COSTS OF THE DEEPWATER HORIZON SPILL?

Mark A Cohen. Resources for the Future (RFF). Backgrounder. June 2010. 6 pages.

http://www.rff.org/RFF/Documents/RFF-BCK-Cohen-DHCosts_update.pdf

While we will never know the true costs of the Deepwater Horizon oil spill, past experience in assessing these kinds of damages provides both a framework for assessing the nature of damages as well as information on the potential magnitude of costs. From society's perspective, the cost of an oil spill consists of both "private" costs to the oil rig operator(s) and "external" or third-party costs to the government, victims, and natural resources. While many of these external costs will ultimately be borne by the legally responsible parties (subject to any liability caps), it is useful to start from this categorization.

DETECTING OIL SPILLS: WHO SHOULD PAY AND HOW MUCH?

Mark A Cohen. Resources for the Future (RFF). Backgrounder. June 2010. 6 pages.

http://www.rff.org/RFF/Documents/RFF-BCK-Cohen-DeterringOilSpills_update.pdf

Deterring and/or punishing firms that spill oil would seem at first glance to be issues left to the courts and lawyers. Yet, economists have studied the optimal penalty for environmental harms for many years and have a useful framework for analyzing the appropriate sanctions in the case of an oil spill. The optimal penalty literature begins with Gary Becker's (1968) economic analysis of crime. The basic insight of that seminal article is that potential criminals respond to both the probability of detection and the severity of punishment if detected and convicted. Consequently, deterrence may be enhanced by raising the penalty, increasing monitoring activities to raise the likelihood that the offender will be caught, or changing legal rules to increase the probability of conviction. Becker's model ultimately leads to an "efficient" level of crime, whereby the marginal cost of enforcement is equated to the marginal social benefit of crime reduction.

DEEPWATER HORIZON AND THE PATCHWORK OF OIL SPILL LIABILITY LAW

Nathan Richardson. Resources for the Future (RFF). Backgrounder. May 2010. 6 pages.

<http://www.rff.org/RFF/Documents/RFF-BCK-Richardson-OilLiability.pdf>

The law of oil spill liability is a patchwork, built from relatively ancient traditions of maritime law but with a major overlay of modern statutes. It is a mixture of civil liability (at both the federal and state level) and criminal regimes. Different claimants with varying types of damage claims are treated differently. While liability is the primary method of preventing spills, significant regulations exist as well, and these regulations influence the liability rules in turn. This complexity is the result of an uneasy compromise between industry interests and legislators motivated by damages from spills. Historically, this compromise has shifted in response to major spills, and is likely to do so again in the wake of the Deepwater Horizon spill.

LOST ECOSYSTEM GOODS AND SERVICES AS A MEASURE OF MARINE OIL POLLUTION DAMAGES

James W. Boyd. Resources for the Future (RFF). Discussion Paper 10-31. May 2010. 25 pages.

<http://www.rff.org/RFF/Documents/RFF-DP-10-31.pdf>

This paper addresses the definition and measurement of liability for marine oil pollution accidents. The economic value of lost or injured ecosystem goods and services is argued to be the most legally, economically, and ecologically defensible measure of damages. This is easier said than done, however. Calculating lost ecological wealth with any precision is an enormous scientific and economic undertaking. This paper proposes practical ways to improve our future ability to calculate such losses.

COPING WITH THE NEXT OIL SPILL: WHY U.S.-CUBA ENVIRONMENTAL COOPERATION IS CRITICAL

Jorge R. Piñon and Robert L. Muse. The Brookings Institution. Issue Brief No. 2. May 2010. 5 pages.

http://www.brookings.edu/~media/Files/rc/papers/2010/0518_oil_spill_cuba_pinon/0518_oil_spill_cuba_pinon.pdf

The sinking of the Deepwater Horizon drilling platform and the resulting discharge of millions of gallons of crude oil into the sea demonstrated graphically the challenge of environmental protection in the ocean waters shared by Cuba and the United States. While the quest for deepwater drilling of oil and gas may slow as a result of the latest calamity, it is unlikely to stop. It came as little surprise, for example, that Repsol recently announced plans to move forward with exploratory oil drilling in Cuban territorial waters later this year. As Cuba continues to develop its deepwater oil and natural gas reserves, the consequence

to the United States of a similar mishap occurring in Cuban waters moves from the theoretical to the actual. While Washington is working to prevent future disasters in U.S. waters like the Deepwater Horizon, its current policies foreclose the ability to respond effectively to future oil disasters -- whether that disaster is caused by companies at work in Cuban waters, or is the result of companies operating in U.S. waters.

CLEAN BY DESIGN: NRDC'S TEN BEST PRACTICES FOR TEXTILE MILLS TO SAVE MONEY AND REDUCE POLLUTION

Linda Greer, Susan Egan Keane and Zixin Lin. Natural Resources Defense Council (NRDC). February 2010. 24 pages.

<http://www.nrdc.org/international/cleanbydesign/files/rsifullguide.pdf>

From the clothes on our backs to the curtains in our homes, thousands of everyday items we rely on are produced by the world's textile industry. Dyeing and finishing one ton of fabric can result in the pollution of up to 200 tons of water with a suite of harmful chemicals and consume tremendous amounts of energy for steam and hot water. With the industry now centered in countries with still developing environmental regulatory systems, such as China, India, Bangladesh, and Vietnam, textile manufacturing has a huge environmental footprint. To address the rapidly increasing global effect of this industry, NRDC and a group of apparel retailer and brand partners are spearheading the Responsible Sourcing Initiative (RSI) to curb pollution in the sector while saving the industry money. Starting in China, the world's largest center of manufacturing, NRDC reviewed more than a dozen textile mills and studied five in-depth to identify simple, cost-saving opportunities to reduce water, energy, and chemical use -- via improvements in manufacturing efficiency.

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