



## Environment – Documents on the Web – Fall 2009

### GOVERNMENT DOCUMENTS:

#### CLIMATE CHANGE

##### REMARKS BY THE PRESIDENT AT UNITED NATIONS SECRETARY GENERAL BAN KI-MOON'S CLIMATE CHANGE SUMMIT

President Barack Obama. United Nations Headquarters. New York, New York. September 22, 2009.

[http://www.whitehouse.gov/the\\_press\\_office/Remarks-by-the-President-at-UN-Secretary-General-Ban-Ki-moons-Climate-Change-Summit/](http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-at-UN-Secretary-General-Ban-Ki-moons-Climate-Change-Summit/)

Our generation's response to this challenge will be judged by history, for if we fail to meet it -- boldly, swiftly, and together -- we risk consigning future generations to an irreversible catastrophe. No nation, however large or small, wealthy or poor, can escape the impact of climate change. Rising sea levels threaten every coastline. More powerful storms and floods threaten every continent. More frequent droughts and crop failures breed hunger and conflict in places where hunger and conflict already thrive. On shrinking islands, families are already being forced to flee their homes as climate refugees. The security and stability of each nation and all peoples -- our prosperity, our health, and our safety -- are in jeopardy. And the time we have to reverse this tide is running out. And yet, we can reverse it.

##### PRESS BRIEFING ON THE PRESIDENT'S CLIMATE CHANGE SPEECH

Todd Stern, Special Envoy for Climate Change, Michael Froman, Deputy National Security Advisor for International Economic Affairs AND Carol Browner, Assistant to the President for Energy and Climate Issues. Press Filing Center. Waldorf Astoria. New York, NY. September 22, 2009.

[http://www.whitehouse.gov/the\\_press\\_office/Briefing-by-Todd-Stern-Mike-Froman-and-Carol-Browner-on-the-Presidents-Climate-Change-Speech/](http://www.whitehouse.gov/the_press_office/Briefing-by-Todd-Stern-Mike-Froman-and-Carol-Browner-on-the-Presidents-Climate-Change-Speech/)

We have said repeatedly that what we need is comprehensive energy legislation. We need the tools to begin the process of breaking our dependence on foreign oil. We need to create a new generation of green jobs, American jobs, and we need to put a cap on the dangerous pollutants that contribute to climate change. We want a comprehensive package and we're doing everything we can to make that happen, to make it happen sooner rather than later. Back in I guess it was March people said we'd never get a bill out of the House. Well, we got a bill out of the House. So we're moving along in the process and remain committed to that.

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

U.S. Department of State. Washington, DC. September 21, 2009.

<http://www.state.gov/g/oes/rls/other/2009/129491.htm>

The fourth meeting at the Leaders' representative level of the Major Economies Forum on Energy and Climate met in Washington, DC, September 17-18, 2009. It was attended by officials from seventeen major economies, as well as the United Nations and Denmark. Participants agreed that the Forum continues to provide a useful opportunity to discuss key issues, explore new ideas, and identify points of shared understandings, as a contribution to the preparations for the Copenhagen Climate Conference in December 2009. There was wide interest in focusing on matters where discussions could help advance toward a convergence of views in Copenhagen. Participants continued their robust exchange of views on adaptation, mitigation, measuring, reporting, and verification, and technology at the session.

#### SPECIAL BRIEFING ON SEPTEMBER 17-18 MEETING OF THE MAJOR ECONOMIES FORUM ON ENERGY AND CLIMATE

Todd Stern, Special Envoy for Climate Change and Michael Froman, Deputy National Security Advisor for International Economic Affairs. U.S. Department of State. Washington, DC. September 18, 2009. <http://www.state.gov/g/oes/rls/remarks/2009/129385.htm>

The purpose of the meeting was to build on the progress that was made at the leaders meeting in L'Aquila, Italy past -- last July, and to explore concrete initiatives and ways of working through the issues necessary to reach a positive resolution of the UN negotiations -- the UNFCCC negotiations leading to Copenhagen. The Forum also seeks to advance the exploration of concrete initiatives and joint ventures on technology cooperation and the supply of clean energy. [...] It was a very candid and open discussion, a very constructive tone. It's exactly what the MEF was intended to do in terms of working through issues.

#### HOW REGULATORY STANDARDS CAN AFFECT A CAP-AND-TRADE PROGRAM FOR GREENHOUSE GASES

Congressional Budget Office (CBO). Economic and Budget Issue Brief. September 16, 2009. 6 pages. <http://www.cbo.gov/ftpdocs/105xx/doc10562/09-16-CapandStandards.pdf>

Over the past two decades, policymakers have established cap-and-trade and other market-based programs because such programs often provide a more efficient way to reduce pollution than is possible through the imposition of regulatory standards alone. Regulatory standards combined with market-based approaches often will increase the cost of meeting an environmental goal. In particular, if standards forced large reductions in emissions in a specific industry or for a particular product that would not result from a cap-and-trade program alone, the standards would reduce the demand for allowances and depress market prices for them. Some lower-cost strategies would then not be pursued because producers would have no incentive to adopt them. The target for emission reductions might be met, but the technology or performance standard might have substituted higher-cost for lower-cost reductions that would have occurred as a result of the cap-and-trade program without the additional standards.

#### THE CURRENT STATE OF OUR NEGOTIATIONS ON A NEW INTERNATIONAL CLIMATE AGREEMENT

Todd Stern, Special Envoy for Climate Change. Statement to the Select Committee for Energy Independence and Global Warming, U.S. House of Representatives. Washington, DC. September 10, 2009.

<http://www.state.gov/g/oes/rls/remarks/2009/129204.htm>

The problem we face is one of historic proportions. Science tells us that the world is on an unsustainable course. That, indeed, is why we must act with strength and determination at home. But at the same time,

the climate challenge is global and the solution must be global. Only through a multilateral solution that involves everyone -- and in which key players all contribute -- can we solve the problem. The negotiations we are engaged in revolve primarily around the following issues: mitigation undertakings for both developed and the more advanced developing countries; a regime for measuring, reporting, and verifying all actions taken; the provision of appropriate financial and technology assistance by major economies; and adaptation and forestry issues.

#### INTERIM REPORT OF THE INTERAGENCY OCEAN POLICY TASK FORCE

White House Council on Environmental Quality. September 10, 2009. 38 pages.

[http://www.whitehouse.gov/assets/documents/09\\_17\\_09\\_Interim\\_Report\\_of\\_Task\\_Force\\_FINAL2.pdf](http://www.whitehouse.gov/assets/documents/09_17_09_Interim_Report_of_Task_Force_FINAL2.pdf)

This interim report e suggests a National Policy for the Stewardship of the Ocean, Our Coasts, and the Great Lakes, which would provide a comprehensive national approach to uphold U.S. stewardship responsibilities; ensure accountability for our actions; and serve as a model of balanced, productive, efficient, sustainable, and informed ocean, coastal, and Great Lakes use, management, and conservation within the global community. The National Policy recognizes that America's stewardship of the ocean, our coasts, and the Great Lakes is intrinsically and intimately linked to environmental sustainability, human health and well-being, national prosperity, adaptation to climate and other environmental change, social justice, foreign policy, and national and homeland security.

#### CLIMATE CHANGE PERSPECTIVES

U.S. Department of State. Bureau of International Information Programs (IIP). Electronic Journal Volume 14, Number 9. September 2009. 40 pages.

<http://www.america.gov/media/pdf/ejs/0909.pdf>

In this eJournalUSA, experts from key nations around the world ponder the conditions that climate change and global warming present in their regions. They discuss what is being done within their countries to address climate change mitigation and adaptation and how they envision mutually beneficial international partnerships. These issues will be considered in-depth at the December 2009 meeting in Copenhagen, Denmark, the United Nations Framework Convention on Climate Change (UNFCCC) 15th Conference of Parties (COP15). The goal is a viable agreement that satisfies the nearly 200 countries concerned. "We have reached a pivotal moment in the climate challenge, and what we decide to do now will have a profound and lasting impact on our nation and our planet," writes U.S. Special Envoy for Climate Change Todd Stern in his introductory article.

#### THE ECONOMIC EFFECTS OF LEGISLATION TO REDUCE GREENHOUSE-GAS EMISSIONS

Congressional Budget Office (CBO). September 2009. 32 pages.

<http://www.cbo.gov/ftpdocs/105xx/doc10573/09-17-Greenhouse-Gas.pdf>

This report makes the following key points: climate change is an international problem; the economic impact of a policy to ameliorate that risk would depend importantly on the design of the policy; reducing the risk of climate change would come at some cost to the economy; and climate legislation would cause permanent shifts in production and employment away from industries focused on the production of carbon-based energy and energy-intensive goods and services and toward the production of alternative energy sources and less-energy-intensive goods and services.

#### AGRICULTURAL LAND TENURE AND CARBON OFFSETS

Roger Claassen and Mitch Morehart. Economic Research Service. U.S. Department of Agriculture. Economic Brief No. 14. September 2009. 6 pages.

<http://www.ers.usda.gov/Publications/EB14/EB14.pdf>

If agricultural producers are allowed to participate in a national cap-and-trade system to curb greenhouse gas (GHG) emissions, the opportunity to sell carbon off sets could prompt farmers to manage their land in a way that increases the amount of carbon stored in soil organic matter and plant biomass, including residue. Farmers who own the land they farm, however, may be in a better position to generate off sets than those who rent their land. Because carbon is sequestered over time, off set agreements would likely require that sequestration practices be maintained for 5-10 years. For agricultural producers who rent land, insecure land tenure could be a barrier to long-term investment and/or farming practice commitments.

#### ACCELERATED VEHICLE RETIREMENT FOR FUEL ECONOMY: “CASH FOR CLUNKERS”

Brent D. Yacobucci and Bill Canis. Congressional Research Service (CRS). August 10, 2009. 12 pages.

[http://assets.opencrs.com/rpts/R40654\\_20090810.pdf](http://assets.opencrs.com/rpts/R40654_20090810.pdf)

In an attempt to boost sagging U.S. auto sales and to promote higher vehicle fuel economy, the President signed legislation on June 24, 2009 (P.L. 111-32) establishing a program to provide rebates to prospective purchasers toward the purchase of new, fuel-efficient vehicles, provided the trade-in vehicles are scrapped. The program provides rebates of \$3,500 or \$4,500, depending on fuel economy and vehicle type of both the new vehicle and the vehicle to be disposed of. An amount of \$1 billion was appropriated for the program, which was established to cover sales between July 1 and November 1, 2009. Similar programs have been implemented in various U.S. states, but this would be the first federal program. Further, in general those state pilot programs focused on retiring vehicles with older, and in some cases malfunctioning, emissions control systems in order to promote better air quality. The Consumer Assistance to Recycle and Save (CARS) program (also called the Car Allowance Rebate System) focuses, instead, on higher fuel economy and promoting U.S. auto sales.

#### CARBON SEQUESTRATION IN FORESTS

Ross W. Gorte. Congressional Research Service (CRS). August 6, 2009. 26 pages.

[http://assets.opencrs.com/rpts/RL31432\\_20090806.pdf](http://assets.opencrs.com/rpts/RL31432_20090806.pdf)

This report examines basic questions concerning carbon sequestration in forests. The first section provides a brief background on congressional interest in forest carbon sequestration. The second describes the basic carbon cycle in forests, with an overview of how carbon cycling and storage vary among different types of forests. The third section then addresses how forest carbon is considered in the global climate change debate. This third section begins with an overview of accounting for forest carbon, and then discusses the carbon consequences of forest management practices, the effects of changes in land use, and “leakage.” The section then concludes with a summary of existing federal programs that could affect forest carbon sequestration.

#### CLIMATE CHANGE POLICY: PRELIMINARY OBSERVATIONS ON OPTIONS FOR DISTRIBUTING EMISSIONS ALLOWANCES AND REVENUE UNDER A CAP-AND-TRADE PROGRAM

John Stephenson, Director, Natural Resources and Environment. Government Accountability Office (GAO). Testimony before the Committee on Finance, U.S. Senate. August 4, 2009. 22 pages.

<http://www.gao.gov/new.items/d09950t.pdf>

Congress is considering proposals to establish a price on greenhouse gas emissions through a cap-and-trade program that would limit overall emissions and require covered entities to hold tradable emissions permits, or allowances, for their emissions. The purpose of such a program is to raise the cost of activities that produce emissions and thereby provide an economic incentive to decrease emissions. The method for allocating allowances in a cap-and-trade program can have significant economic implications for the government, regulated entities, and households. This testimony provides preliminary results of ongoing work assessing the potential effects of allowance allocation methods, and options for distributing program revenues or the economic value of allowances.

#### THE USE OF OFFSETS TO REDUCE GREENHOUSE GASES

Congressional Budget Office (CBO). Economic and Budget Issue Brief. August 3, 2009. 8 pages.

<http://www.cbo.gov/ftpdocs/104xx/doc10497/08-03-Offsets.pdf>

If offsets – which can be defined as reductions in greenhouse gases (GHGs) from activities not subject to limits on emissions – are less expensive than reductions from limiting the use of fossil fuels, they can reduce the overall economic cost of meeting a target for emissions. Yet the difficulty of verifying offset activities raises concerns about whether the specified target will actually be met; those concerns may be especially acute when, as under the American Clean Energy and Security Act (ACESA) of 2009, allowable offsets include actions taken outside of the country setting the target for emissions. Although experience with offsets is not extensive, preliminary evidence suggests that they can significantly lower the economic cost of a cap-and-trade program, even after accounting for the costs of steps taken to increase confidence that offsets represent true incremental reductions in GHGs. However, estimates of the savings that would result from including offsets in a cap-and-trade program are imprecise and depend importantly on policy design.

#### TAKING UP THE SECURITY CHALLENGE OF CLIMATE CHANGE

Rymn J. Parsons. Strategic Studies Institute. U.S. Army War College. U.S. Department of Defense. August 2009. 26 pages.

<http://www.strategicstudiesinstitute.army.mil/pdf/PUB932.pdf>

Climate change, in which man-made global warming is a major factor, will likely have dramatic and long lasting consequences with profound security implications, making it a challenge the United States must urgently take up. The security implications will be most pronounced in places where the effects of climate change are greatest, particularly affecting weak states already especially vulnerable to environmental destabilization. Two things are vitally important: stemming the tide of climate change and adapting to its far-reaching consequences. This project examines the destabilizing effects of climate change and how the military could be used to mitigate global warming and to assist at-risk peoples and states to adapt to climate change, thereby promoting stability and sustainable security.

#### GREENHOUSE GAS LEGISLATION: SUMMARY AND ANALYSIS OF H.R. 2454 AS PASSED BY THE HOUSE OF REPRESENTATIVES

Mark Holt and Gene Whitney. Congressional Research Service (CRS). July 27, 2009. 164 pages.

[http://assets.opencrs.com/rpts/R40643\\_20090727.pdf](http://assets.opencrs.com/rpts/R40643_20090727.pdf)

H.R. 2454 contains provisions that would amend the Clean Air Act to establish a cap-and-trade system designed to reduce greenhouse gas emissions from covered sources 17% below 2005 levels by 2020 and 83% below 2005 levels by 2050. The market-based approach would establish an absolute cap on the emissions and would allow trading of emissions permits (“allowances”). The bill achieves its broad

coverage through an upstream compliance mandate on petroleum and most fluorinated gas producers and importers, and a downstream mandate on electric generators and industrial sources, and a midstream mandate on natural gas local distribution companies (LDCs). The bill allocates a substantial percentage of the allowances for the benefit of energy consumers and low-income households.

#### CLIMATE CHANGE TRADE MEASURES: CONSIDERATIONS FOR U.S. POLICY MAKERS

Government Accountability Office (GAO). July 8, 2009. 50 pages.

<http://www.gao.gov/new.items/d09724r.pdf>

Members of Congress have introduced several bills to address the problem of climate change, many of which establish domestic emissions pricing by requiring firms that emit greenhouse gases either to pay a tax or to hold emission allowances. Whichever approach is taken, domestic emissions pricing could produce environmental benefits by encouraging U.S. firms to reduce their emissions of greenhouse gases. But such pricing could also harm U.S. firms' competitiveness, especially in energy-intensive industries where firms compete internationally. Additionally, there could be increased emissions abroad if production were to increase in other countries as a result of increased domestic costs of production resulting from a U.S. climate policy (carbon leakage).

#### CLIMATE CHANGE TRADE MEASURES: ESTIMATING INDUSTRY EFFECTS

Loren Yager, Director, International Affairs and Trade. Government Accountability Office (GAO).

Testimony before the Committee on Finance, U.S. Senate. July 8, 2009. 14 pages.

<http://www.gao.gov/new.items/d09875t.pdf>

Estimating the potential effects of domestic emissions pricing for industries in the United States is complex. If the United States were to regulate greenhouse gas emissions, production costs could rise for certain industries and could cause output, profits, or employment to fall. Within these industries, some of these adverse effects could arise through an increase in imports, a decrease in exports, or both. However, the magnitude of these potential effects is likely to depend on the greenhouse gas intensity of industry output and on the domestic emissions price, which is not yet known, among other factors.

#### CALCULATION OF LIFECYCLE GREENHOUSE GAS EMISSIONS FOR THE RENEWABLE FUEL STANDARD

Brent D. Yacobucci and Kelsi S. Bracmort. Congressional Research Service (CRS). June 25, 2009. 15 pages.

[http://assets.opencrs.com/rpts/R40460\\_20090625.pdf](http://assets.opencrs.com/rpts/R40460_20090625.pdf)

The Energy Independence and Security Act of 2007 (P.L. 110-140), significantly expanded the renewable fuel standard (RFS) established in the Energy Policy Act of 2005 (P.L. 109-58). To classify biofuels under the RFS, the Environmental Protection Agency (EPA) must calculate the lifecycle emissions of each fuel relative to gasoline or diesel fuel. Lifecycle emissions include emissions from all stages of fuel production and use ("well-to-wheels"), as well as both direct and indirect changes in land use from farming crops to produce biofuels. Debate is ongoing on how each factor in the biofuels lifecycle should be addressed, and the issues surrounding direct and indirect land use are particularly controversial. How EPA resolves those issues will affect the role each fuel plays in the RFS.

#### CLIMATE CHANGE: THE ROLE OF THE U.S. AGRICULTURE SECTOR AND CONGRESSIONAL ACTION

Renée Johnson. Congressional Research Service (CRS). June 19, 2009. 40 pages.  
[http://assets.opencrs.com/rpts/RL33898\\_20090619.pdf](http://assets.opencrs.com/rpts/RL33898_20090619.pdf)

The agriculture sector is a source of greenhouse gas (GHG) emissions, which many scientists agree are contributing to observed climate change. Agriculture is also a “sink” for sequestering carbon, which might offset GHG emissions by capturing and storing carbon in agricultural soils. The two key types of GHG emissions associated with agricultural activities are methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O). Agricultural sources of CH<sub>4</sub> emissions mostly occur as part of the natural digestive process of animals and manure management at livestock operations; sources of N<sub>2</sub>O emissions are associated with soil management and fertilizer use on croplands. This report describes these emissions on a carbon-equivalent basis to illustrate agriculture’s contribution to total national GHG emissions and to contrast emissions against estimates of sequestered carbon.

#### CARBON CAPTURE AND SEQUESTRATION (CCS)

Peter Folger. Congressional Research Service (CRS). June 19, 2009. 31 pages.  
[http://assets.opencrs.com/rpts/RL33801\\_20090619.pdf](http://assets.opencrs.com/rpts/RL33801_20090619.pdf)

Carbon capture and sequestration (or storage) -- known as CCS -- has attracted interest as a measure for mitigating global climate change because large amounts of carbon dioxide (CO<sub>2</sub>) emitted from fossil fuel use in the United States are potentially available to be captured and stored underground or prevented from reaching the atmosphere. Large, industrial sources of CO<sub>2</sub>, such as electricity-generating plants, are likely initial candidates for CCS because they are predominantly stationary, single-point sources. Electricity generation contributes over 40% of U.S. CO<sub>2</sub> emissions from fossil fuels. Congressional interest has grown in CCS as part of legislative strategies to address climate change.

#### ESTIMATES OF CARBON MITIGATION POTENTIAL FROM AGRICULTURAL AND FORESTRY ACTIVITIES

Renée Johnson, Ross W. Gorte, Brent D. Yacobucci and Randy Schnepf. Congressional Research Service (CRS). June 19, 2009. 25 pages.  
[http://assets.opencrs.com/rpts/R40236\\_20090619.pdf](http://assets.opencrs.com/rpts/R40236_20090619.pdf)

In the United States, the agriculture and forestry sectors account for 6%-8% of current estimated total U.S. greenhouse gas (GHG) emissions annually. Combined, these sectors are estimated to emit more than 500 million metric tons CO<sub>2</sub> equivalent (MMT CO<sub>2</sub>-Eq.) each year, most of which is emitted from the agriculture sector. Current estimates of the combined amount of carbon sequestered by the agriculture and forestry sectors is reported at more than 1,100 MMT CO<sub>2</sub>-Eq. per year, most of which is attributable to carbon stocks and uptake by trees in the forestry sector. These estimates are useful indicators of the potential for carbon storage in the agriculture and forestry sectors, which some in Congress see as potentially available for carbon offset allowances as part of a cap-and-trade program.

#### FIFTY-YEAR RECORD OF GLACIER CHANGE REVEALS SHIFTING CLIMATE IN THE PACIFIC NORTHWEST AND ALASKA, USA

U.S. Geological Survey. U.S. Department of the Interior. Fact Sheet 2009–3046. June 2009. 4 pages.  
<http://pubs.usgs.gov/fs/2009/3046/pdf/fs20093046.pdf>

Fifty years of U.S. Geological Survey (USGS) research on glacier change shows recent dramatic shrinkage of glaciers in three climatic regions of the United States. These long periods of record provide clues to the climate shifts that may be driving glacier change. The USGS Benchmark Glacier Program began in 1957 as a result of research efforts during the International Geophysical Year. Annual data

collection occurs at three glaciers that represent three climatic regions in the United States: South Cascade Glacier in the Cascade Mountains of Washington State; Wolverine Glacier on the Kenai Peninsula near Anchorage, Alaska; and Gulkana Glacier in the interior of Alaska.

## ENVIRONMENTAL PROTECTION AND CONSERVATION

### WILDLAND FIRE MANAGEMENT: FEDERAL AGENCIES HAVE TAKEN IMPORTANT STEPS FORWARD, BUT ADDITIONAL, STRATEGIC ACTION IS NEEDED TO CAPITALIZE ON THOSE STEPS

Government Accountability Office (GAO). Report to Congressional Addressees. September 2009. 49 pages.

<http://www.gao.gov/new.items/d09877.pdf>

The nation's wildland fire problems have worsened dramatically over the past decade, with more than a doubling of average annual acreage burned and federal appropriations for wildland fire management. The Forest Service and the Interior agencies have improved their understanding of wildland fire's ecological role on the landscape and have taken important steps toward enhancing their ability to cost-effectively protect communities and resources by seeking to make communities and resources less susceptible to being damaged by wildland fire and respond to fire so as to protect communities and important resources at risk but to also consider both the cost and long-term effects of that response. Despite these efforts, much work remains. GAO reviewed progress the agencies have made in managing wildland fire and key actions GAO previously recommended and believes are still necessary to improve wildland fire management.

### SUSTAINABLE MATERIALS MANAGEMENT: THE ROAD AHEAD

Environmental Protection Agency (EPA). June 2009. 49 pages.

<http://www.epa.gov/epawaste/inforesources/pubs/vision2.pdf>

The foundation that underlies the world economy, prosperity and a healthy environment rests largely on how people extract and use the full range of materials that come from and return to the Earth such as wood, minerals, fuels, chemicals, agricultural plants and animals, soil, and rock. The world at large and the United States in particular use vast amounts of materials and those amounts are rapidly increasing. The strategic importance of materials is causing many people to look very carefully at all aspects of the material life cycle that comprise our industrial practices and consumer habits. Each stage of this cycle requires energy and water as inputs and creates impacts on the environment. By considering system-wide impacts, life-cycle materials management casts a far broader net than traditional waste and chemicals management approaches and represents a change in how we think about environmental protection.

## POLLUTION AND WASTE

### CLEAN WATER INFRASTRUCTURE: DESIGN ISSUES AND FUNDING OPTIONS FOR A CLEAN WATER TRUST FUND

Anu K. Mittal, Director, Natural Resources and Environment. Government Accountability Office (GAO). Testimony before the Subcommittee on Water Resources and Environment, Committee on Transportation and Infrastructure, U.S. House of Representatives. July 15, 2009. 12 pages. <http://www.gao.gov/new.items/d09893t.pdf>

Many of the wastewater systems that Americans rely on to protect public health and the environment are reaching the end of their useful lives. The Environmental Protection Agency (EPA) has estimated that a potential gap between future needs and current spending for wastewater infrastructure of \$150 billion to \$400 billion could occur over the next decade. Various approaches have been proposed to bridge this potential gap. One is to establish a clean water trust fund. This testimony summarizes findings of a May 2009 report, where GAO was asked to examine stakeholders' views on the issues that would need to be addressed in designing and establishing a clean water trust fund and potential options that could generate about \$10 billion annually in revenue to support a clean water trust fund.

#### CLEAN AIR ACT: PRELIMINARY OBSERVATIONS ON THE EFFECTIVENESS AND COSTS OF MERCURY CONTROL TECHNOLOGIES AT COAL-FIRED POWER PLANTS

John B. Stephenson, Director, Natural Resources and Environment. Government Accountability Office (GAO). Testimony before the Subcommittee on Clean Air and Nuclear Safety, Committee on Environment and Public Works, U.S. Senate. July 9, 2009. 33 pages. <http://www.gao.gov/new.items/d09860t.pdf>

The 491 U.S. coal-fired power plants are the largest unregulated industrial source of mercury emissions nationwide, annually emitting about 48 tons of mercury – a toxic element that poses health threats, including neurological disorders in children. In 2000, the Environmental Protection Agency (EPA) determined that mercury emissions from these sources should be regulated, but the agency has not set a maximum achievable control technology (MACT) standard, as the Clean Air Act requires. Some power plants, however, must reduce mercury emissions to comply with state laws or consent decrees. This testimony provides preliminary data from GAO's ongoing work on reductions achieved by mercury control technologies and the extent of their use at coal-fired power plants, the cost of mercury control technologies in use at these plants, and key issues EPA faces in regulating mercury emissions from power plants. GAO obtained data from power plants operating sorbent injection systems.

#### SUPERFUND: LITIGATION HAS DECREASED AND EPA NEEDS BETTER INFORMATION ON SITE CLEANUP AND COST ISSUES TO ESTIMATE FUTURE PROGRAM FUNDING REQUIREMENTS

Government Accountability Office (GAO). Report to Congressional Requesters. July 2009. 130 pages. <http://www.gao.gov/new.items/d09656.pdf>

Under the Superfund program, the Environmental Protection Agency (EPA) places the most seriously contaminated sites on the National Priorities List (NPL). EPA may compel site cleanups by parties responsible for contamination, or conduct cleanups itself and have these parties reimburse its costs. The program is funded by a trust fund, which is largely supported by general fund appropriations. GAO was asked to examine EPA's enforcement action outcomes and the factors parties consider in reaching these outcomes; any trends in litigation to resolve Superfund liability; and the program's status and costs.

#### **THINK TANKS AND RESEARCH CENTERS:**

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

## CLIMATE CHANGE

### A PITTSBURGH PROTOCOL: G-20 NEEDS TO ADVANCE THE GLOBAL AGENDA ON CLIMATE CHANGE

Rajendra Pachauri and John Podesta. Center for American Progress. September 23, 2009.

[http://www.americanprogress.org/issues/2009/09/pittsburgh\\_protocol.html](http://www.americanprogress.org/issues/2009/09/pittsburgh_protocol.html)

The world's leading economic powers remain inactive in preventing an increase in the serious impacts of climate change. While current impacts of climate change may not have reached alarming proportions, according to the Intergovernmental Panel on Climate Change that will happen soon enough if we do not take early action. What is causing increasing concern, as the December U.N. climate summit in Copenhagen draws ever nearer, is the continuing deadlock in political action to deal with this challenge.

### A HARSH CLIMATE FOR TRADE: HOW CLIMATE CHANGE PROPOSALS THREATEN GLOBAL COMMERCE

Sallie James. Cato Institute. Trade Policy Analysis No. 41. September 9, 2009. 20 pages.

<http://www.free-trade.org/files/pubs/pas/tpa-041.pdf>

The upcoming Copenhagen conference on climate change has led to calls for the United States to adopt a climate change abatement program in advance. In an effort to minimize adverse effects on certain domestic industries from higher energy costs, however, proponents of a cap-and-trade program for greenhouse gas emissions have loaded up their proposal with giveaways, loopholes, and barriers to imports from nations with less stringent emission caps. These trade measures are likely to be ineffective at best and harmful to U.S. interests at worst.

### THE CLEAN-ENERGY INVESTMENT AGENDA: A COMPREHENSIVE APPROACH TO BUILDING THE LOW-CARBON ECONOMY

John D. Podesta, Kate Gordon, Bracken Hendricks and Benjamin Goldstein. Center for American Progress. September 2009. 16 pages.

[http://www.americanprogress.org/issues/2009/09/pdf/clean\\_energy\\_investment.pdf](http://www.americanprogress.org/issues/2009/09/pdf/clean_energy_investment.pdf)

The United States is having the wrong public debate about global warming. We are asking important questions about pollution caps and timetables, carbon markets and allocations, but we have lost sight of our principal objective: building a robust and prosperous clean energy economy. This is a fundamentally affirmative agenda, rather than a restrictive one. Moving beyond pollution from fossil fuels will involve exciting work, new opportunities, new products and innovation, and stronger communities. This paper lays out the framework for just such an investment-driven energy policy, the pieces of which work together to level the playing field for clean energy and drive a transformation of the economy.

### CLIMATE CHANGE POLICY: RECOMMENDATIONS TO REACH CONSENSUS

The Brookings Institution. September 2009. 68 pages.

[http://www.brookings.edu/~media/Files/rc/papers/2009/09\\_climate\\_change\\_poverty/09\\_climate\\_change\\_poverty.pdf](http://www.brookings.edu/~media/Files/rc/papers/2009/09_climate_change_poverty/09_climate_change_poverty.pdf)

As the financial crisis continues to take its toll on the global economy, another serious challenge looms large: preventing the planet from warming more than 3.6 degrees Fahrenheit. Policymakers are now

faced with the daunting task of stimulating growth without using carbon-intensive practices and stabilizing the climate without dampening economic recovery. If the financial crisis has shown that the future is unpredictable and that the nations and people of the world are interconnected in ways we do not always perceive, the climate challenge reinforces these lessons and suggests the need for timely, global coordination.

#### U.S.-CHINA CLEAN ENERGY COOPERATION: THE ROAD AHEAD

Kenneth G. Lieberthal. John L. Thornton China Center at Brookings. The Brookings Institution. September 2009. 35 pages.

[http://www.brookings.edu/~media/Files/rc/papers/2009/09\\_us\\_china\\_energy\\_cooperation\\_lieberthal/09\\_us\\_china\\_energy\\_cooperation\\_lieberthal.pdf](http://www.brookings.edu/~media/Files/rc/papers/2009/09_us_china_energy_cooperation_lieberthal/09_us_china_energy_cooperation_lieberthal.pdf)

Since the Obama administration took office, U.S.-China cooperation on clean energy and climate change has become one of the major issues that are shaping the evolution of U.S.-China relations. This change reflects internal developments in both countries, along with the looming prospect of the Copenhagen Conference in December 2009. Accords on specific cooperative efforts, however, to date have not moved much beyond the U.S.-China Ten Year Framework Agreement on Energy and Environment signed in June 2008. The remaining months of 2009 -- which will witness both a presidential summit in Beijing in November and the UN Copenhagen Conference in December -- are critical for translating momentum created in the first nine months of 2009 into concrete progress.

#### CLIMATE CHANGE AND THE FUTURE: IMPACTS OF STORM-SURGE DISASTERS IN DEVELOPING COUNTRIES

Susmita Dasgupta, Benoit Laplante, Siobhan Murray and David Wheeler. Center for Global Development. Working Paper No. 182. September 2009. 28 pages.

[http://www.cgdev.org/files/1422836\\_file\\_Future\\_Storm\\_Surge\\_Disasters\\_FINAL.pdf](http://www.cgdev.org/files/1422836_file_Future_Storm_Surge_Disasters_FINAL.pdf)

As the climate changes during the 21st century, larger cyclonic storm surges and growing populations may collide in disasters of unprecedented size. As conditions worsen, variations in coastal morphology will magnify the effects in some areas, while largely insulating others. In this paper, the authors explore the implications for 84 developing countries and 577 of their cyclone-vulnerable coastal cities with populations greater than 100,000. Combining the most recent scientific and demographic information, they estimate the future impact of climate change on storm surges that will strike coastal populations, economies and ecosystems. Their results suggest gross inequality in the heightened impact of future disasters, with the most severe effects limited to a small number of countries and a small cluster of large cities.

#### SMALLER, SIMPLER AND MORE STABLE: DESIGNING CARBON MARKETS FOR ENVIRONMENTAL AND FINANCIAL INTEGRITY

Michelle Chan. Friends of the Earth. September 2009. 17 pages.

<http://www.foe.org/sites/default/files/CarbonMarketsReport.pdf>

The carbon trading system that would be created by the energy bill that passed the House of Representatives in June would be complex, volatile and prone to gaming, according to this report, and emerging proposals to regulate derivatives are necessary but not sufficient to ensure the integrity of carbon markets. Instead, the report concludes, if policymakers wish to use a cap-and-trade system as a tool to reduce global warming pollution, they must design the system to be much simpler, smaller, and more stable than current proposals.

## A DANGEROUS DISTRACTION: WHY OFFSETS ARE A MISTAKE THE U.S. CANNOT AFFORD TO MAKE

Michael Despines, Simon Bullock, Mike Childs and Tom Picken. Friends of the Earth. September 2009. 28 pages.

[http://www.foe.org/sites/default/files/A\\_Dangerous\\_Distraction\\_US.pdf](http://www.foe.org/sites/default/files/A_Dangerous_Distraction_US.pdf)

As the United States moves closer to taking federal action on climate change, it should avoid the mistake of relying on international offsets for carbon emission reductions, according to this report. The authors assert that offsetting, particularly international offsetting, does not work and will not work. Offsetting, they continue, does not lead to promised additional emissions cuts in developing countries while it delays essential structural change in the U.S. economy and in turn slows the growth of green jobs. Offsetting institutionalizes the idea of cuts in either the global North (developed countries) or the global South (developing countries), while science demands simultaneous reductions in both.

## COST CONTAINMENT AND OFFSET USE IN THE AMERICAN CLEAN ENERGY AND SECURITY ACT (WAXMAN-MARKEY)

Pew Center on Global Climate Change. Climate Policy Memo #6. September 2009. 2 pages.

<http://www.pewclimate.org/docUploads/policymemo6-cost-containment-offsets-sept2009.pdf>

The U.S. House of Representatives passed the American Clean Energy and Security (ACES) Act, sponsored by Representatives Waxman and Markey, on June 26, 2009. The ACES Act includes a market-based regulatory program -- cap and trade -- to limit greenhouse gas (GHG) emissions. Specified sources emitting GHGs must hold allowances (permits) in order to continue emitting these gases. Although cap and trade is generally considered a more cost-effective approach than traditional regulation, some are concerned about high compliance costs for regulated firms and related high energy prices for consumers in the early years of the program. In addition, concerns have been raised about the possibility of significant volatility in the price of emission allowances. This memo outlines some of the policy options that can address these cost concerns and provides an overview of the measures included in the ACES Act.

## ADDRESSING COMPETITIVENESS ISSUES IN CLIMATE LEGISLATION

Pew Center on Global Climate Change. Climate Policy Memo #5. September 2009. 2 pages.

<http://www.pewclimate.org/docUploads/acesa-policy-memo-competitiveness.pdf>

Energy-intensive industries may face certain competitiveness concerns resulting from a program to reduce U.S. greenhouse gas (GHG) emissions. Industries such as aluminum, cement, iron and steel, pulp, paper, and certain chemicals -- as large energy users -- all have high energy costs and sell their products in a global marketplace. Domestic producers of these goods could face higher costs than their competitors in countries without comparable GHG constraints. The American Clean Energy Security (ACES) Act, which recently passed the U.S. House of Representatives, attempts to address these competitiveness concerns by compensating energy-intensive, trade-exposed firms for higher costs by providing them with free allowances and through the use of border tax adjustments.

## REASONABLE RESPONSES TO CLIMATE CHANGE

H. Sterling Burnett. National Center for Policy Analysis (NCPA). Policy Report No. 324. September 2009. 20 pages.

<http://www.ncpa.org/pdfs/st324.pdf>

Many people are concerned that an increasing concentration of greenhouse gases in the atmosphere -- due primarily to such human activities as burning fossil fuels for energy -- is causing the Earth to warm, with potentially harmful results. In response, many developed countries agreed to the Kyoto Protocol on Climate Change, committing them to limit and eventually reduce their greenhouse gas emissions. The United States chose not to participate, in part because the agreement exempts such developing countries as China and India, although they have the world's fastest-growing economies and emissions. However, the Obama administration supports a cap-and-trade system similar to the one implemented by the Kyoto agreement. The U.S. Senate will debate a cap-and-trade proposal in fall 2009 under the American Clean Energy and Security Act.

#### SECURING AMERICA'S FUTURE: ENHANCING OUR NATIONAL SECURITY BY REDUCING OIL DEPENDENCE AND ENVIRONMENTAL DAMAGE

Christopher Beddor, Winny Chen, Rudy deLeon, Shiyong Park and Daniel J. Weiss. Center for American Progress. August 2009. 21 pages.

[http://www.americanprogress.org/issues/2009/08/pdf/energy\\_security.pdf](http://www.americanprogress.org/issues/2009/08/pdf/energy_security.pdf)

On June 26 the House of Representatives passed the American Clean Energy and Security Act, or ACESA. The bill would cap greenhouse gas emissions, boost investments in energy efficiency and renewable energy such as wind and solar, and jumpstart the transition to a clean-energy economy. These new investments in clean-energy technologies would slash global warming pollution and reduce foreign oil use while creating jobs and increasing our economic competitiveness with China and other nations. This fall the Senate has a historic opportunity to reduce U.S. oil consumption as part of its debate on comprehensive clean-energy jobs and global warming pollution reduction legislation.

#### HIGH STAKES IN A COMPLEX GAME: A SNAPSHOT OF THE CLIMATE CHANGE NEGOTIATING POSITIONS OF MAJOR DEVELOPING COUNTRY EMITTERS

Jan von der Goltz. Center for Global Development. Working Paper No. 177. August 2009. 38 pages.

[http://www.cgdev.org/files/1422602\\_file\\_High\\_Stakes\\_FINAL081009.pdf](http://www.cgdev.org/files/1422602_file_High_Stakes_FINAL081009.pdf)

Developing countries with large greenhouse gas emissions play a decisive role in negotiating a post-Kyoto climate agreement. No effective program to reduce global emissions is possible without their support. At the same time, developing countries face a delicate task in balancing their growing responsibility for a livable climate with the pursuit of continued economic development. This article discusses the negotiating positions major developing country emitters are taking on core issues. Among the most vital unsettled questions are burden sharing between developed and developing countries, the role of the market in the international climate architecture, as well as implementation arrangements. An annex discusses current mitigation policies of major developing country emitters, and argues that developing countries are already taking meaningful action to limit the growth of their greenhouse gas emissions.

#### SETTING THE NAFTA AGENDA ON CLIMATE CHANGE

Jeffrey J. Schott and Meera Fickling. Peterson Institute for International Economics. Policy Brief No. 09-18. August 2009. 8 pages.

<http://www.iie.com/publications/pb/pb09-18.pdf>

The American Climate and Energy Security Act (ACESA) passed by the US House of Representatives in June 2009 cuts emissions, sets new standards for the use of renewable energy sources, and provides

support to ease the transition to a low-carbon economy and to mitigate concerns about trade competitiveness of carbon-intensive industries and increased energy costs to consumers. This policy brief assesses the implications of the ACESA for North American trade and investment, particularly the free distribution of emissions permits, the allocation of revenues generated by the limited auctioning of emissions permits, the impact of renewable portfolio standards on US-Canada electricity trade, and the international offset provisions (that could be available to support Mexican policies seeking to cut GHG emissions in half by 2050).

#### INTERNATIONAL CLIMATE NEGOTIATIONS

World Resources Institute (WRI). Bottom Line Series. Issue 14. August 2009. 2 pages.

[http://pdf.wri.org/bottom\\_line\\_international\\_climate\\_negotiations.pdf](http://pdf.wri.org/bottom_line_international_climate_negotiations.pdf)

In December 2009, diplomats from around the world will convene in Copenhagen, Denmark to decide on a new international agreement on climate change. This document answers questions about the agreements and structures that form the basis of the Copenhagen climate change negotiations.

#### OPTIONS FOR ADDRESSING EARLY ACTION GREENHOUSE GAS REDUCTIONS AND OFFSETS IN U.S. FEDERAL CAP-AND-TRADE POLICY

Alexia Kelly, Nicholas Bianco and John Larsen. World Resources Institute (WRI). Working Paper. August 2009. 14 pages.

[http://pdf.wri.org/working\\_papers/options\\_for\\_early\\_action\\_greenhouse\\_gas\\_reductions.pdf](http://pdf.wri.org/working_papers/options_for_early_action_greenhouse_gas_reductions.pdf)

When implemented properly, an early action component of a cap-and-trade program can reward early actors while preserving or enhancing the environmental outcomes of the cap-and-trade program. If designed and implemented poorly, however, early action credits can inflate the emissions cap and reduce the overall environmental integrity of the program. This paper presents a range of options for addressing early reductions and discusses their implications.

#### DISTRIBUTION OF ALLOWANCES UNDER THE AMERICAN CLEAN ENERGY AND SECURITY ACT (WAXMAN-MARKEY)

Pew Center on Global Climate Change. Climate Policy Memo #4. August 2009. 2 pages.

<http://www.pewclimate.org/docUploads/policy-memo-allowance-distribution-under-waxman-markey.pdf>

The U.S. House of Representatives passed the American Clean Energy and Security (ACES) Act, sponsored by Representatives Waxman and Markey, on June 26, 2009. The ACES Act includes a cap-and-trade program designed to limit emissions of greenhouse gases in the United States. This policy memo presents an overview of how emission allowances are distributed -- the extent to which they are auctioned or freely allocated and the policy objectives achieved by their distribution.

#### NATIONAL SECURITY IMPLICATIONS OF GLOBAL CLIMATE CHANGE

Pew Center on Global Climate Change. August 2009. 3 pages.

<http://www.pewclimate.org/docUploads/national-security-implications-memo-august2009.pdf>

Recently, respected voices in the U.S. national security community -- general officers, CIA analysts, high-level Pentagon officials -- have warned that global climate change threatens American security. The security implications of climate change can be parsed into three broad categories: The changing foreign policy landscape; U.S. military missions and operations; and National security as a driver of solutions.

## POLICY OPTIONS FOR REDUCING GHG EMISSIONS FROM TRANSPORTATION FUELS

Pew Center on Global Climate Change. Policy Brief. August 2009. 15 pages.

<http://www.pewclimate.org/docUploads/transportation-fuels-policy-brief-2009-08-25.pdf>

Transportation is the second largest contributor to total U.S. greenhouse gas (GHG) emissions and responsible for about one-third of U.S. carbon-dioxide emissions from the combustion of fossil fuels. There are a variety of policy strategies that can be used to address GHG emissions from the transportation sector. This paper focuses on two such mechanisms. The first policy is an economy-wide cap-and-trade program, which would include transportation fuels under the cap and, thus, limit GHG emissions from fossil fuel combustion. The second is a low-carbon fuel standard (LCFS), which would set a carbon intensity targets for the entire range of transportation fuels. Either one or both policies can be implemented as a means to reduce GHG emissions from transportation.

## ADAPTATION PLANNING: WHAT U.S. STATES AND LOCALITIES ARE DOING

Terri L. Cruce. Pew Center on Global Climate Change. August 2009. 25 pages.

<http://www.pewclimate.org/docUploads/state-adapation-planning-august-2009.pdf>

While governments act to mitigate future climate change, they must also plan now to address the current and projected impacts. This preparation includes risk and vulnerability assessments, prioritization of projects, funding and allocation of both financial and human resources, solution development and implementation, and rapid deployment of information sharing and decision-support tools. This paper focuses on adaptation planning efforts by both state and local governments. Many of these efforts are in their earliest stages. Some states are including adaptation within the scope of their state Climate Action Plans addressing GHG emissions. A few others have recognized the need for separate and comprehensive adaptation commissions to parallel their mitigation efforts. Many are simply responding to climate impacts as they occur, without necessarily attributing the impacts to climate change.

## BREAKING THROUGH ON TECHNOLOGY: OVERCOMING THE BARRIERS TO THE DEVELOPMENT AND WIDE DEPLOYMENT OF LOW-CARBON TECHNOLOGY

Center for American Progress and Global Climate Network. July 2009. 41 pages.

[http://www.americanprogress.org/issues/2009/07/pdf/gcn\\_report.pdf](http://www.americanprogress.org/issues/2009/07/pdf/gcn_report.pdf)

Technology is critical for human development and progress. The fight against climate change will not be won without a revolution in the use of existing low-carbon technology and a tidal wave of new inventions. Yet the importance of doing that, especially in healing the rifts in international climate negotiations, is not yet being recognized. This report details the views of more than 100 experts from government, private sector firms, academic institutes and non-governmental organizations in eight countries (Australia, Brazil, China, Germany, India, Nigeria, South Africa and the United States) on the barriers to the 'development and transfer' of low-carbon technology. The authors also draw their key findings, conclusions and recommendations.

## CLIMATE SCIENCE 2008: MAJOR NEW DISCOVERIES

Kelly Levin and Dennis Tirpak. World Resources Institute (WRI). Issue Brief. July 2009. 28 pages.

[http://pdf.wri.org/climate\\_science\\_2008.pdf](http://pdf.wri.org/climate_science_2008.pdf)

This annual review highlights the latest major research and innovations in climate change science and technology. It presents a synthesis of current understanding of global warming at a critically important time for the United States and the world. The latest science supplies further evidence confirming that

anthropogenic activities are the primary cause of rising temperatures over the last century, and supports the need for rapid and substantial greenhouse gas mitigation efforts worldwide. It also confirms that adaptation measures are increasingly required today -- and will be ever more important in the future -- to enhance the resilience of both human and non-human populations in a changing climate.

#### WORLD GREENHOUSE GAS EMISSIONS IN 2005

Tim Herzog. World Resources Institute (WRI). Working Paper. July 2009. 5 pages.

[http://pdf.wri.org/working\\_papers/world\\_greenhouse\\_gas\\_emissions\\_2005.pdf](http://pdf.wri.org/working_papers/world_greenhouse_gas_emissions_2005.pdf)

This paper offers a comprehensive view of global, anthropogenic greenhouse gas (GHG) emissions. One of the greatest challenges relating to global warming is that greenhouse gases result -- directly or indirectly -- from almost every major human industry and activity. This paper shows these industries and activities, and the type and volume of greenhouse gases that result from them. It includes emissions estimates from a range of international data providers, in an attempt to account for all significant GHG emissions sources. 2005 is the most recent year for which comprehensive emissions data are available for every major gas and sector.

#### REGIONAL CAP-AND-TRADE PROGRAMS

World Resources Institute (WRI). Bottom Line Series. Issue 13. July 2009. 2 pages.

[http://pdf.wri.org/bottom\\_line\\_regional\\_cap\\_and\\_trade.pdf](http://pdf.wri.org/bottom_line_regional_cap_and_trade.pdf)

Three regional greenhouse gas cap-and-trade programs are either in the planning stages or operational in North America: the Northeastern Regional Greenhouse Gas Initiative, or RGGI; the Western Climate Initiative, or WCI; and the Midwestern Greenhouse Gas Reduction Accord, or Midwestern Accord. This brief discusses each of these programs.

#### WHAT THE WAXMAN-MARKEY BILL DOES FOR AGRICULTURE

Pew Center on Global Climate Change. July 2009. 5 pages.

<http://www.pewclimate.org/docUploads/what-waxman-markey-does-for-agriculture.pdf>

Agriculture is likely one of America's most vulnerable sectors to a changing climate. To deal with this critical issue, farmers and ranchers are not directly regulated by the Waxman-Markey American Clean Energy and Security (ACES) Act. Instead, the bill makes them part of the solution to climate change by offering incentives, greenhouse gas (GHG) offsets, and opportunities to supply bioenergy. Agriculture and forestry can take carbon dioxide, the major greenhouse gas, out of the atmosphere and store it as carbon in plants and soils. Agriculture can also produce energy from biomass that can displace fossil fuels, the major contributor to greenhouse gas emissions.

#### FEVER PITCH: MOSQUITO-BORNE DENGUE FEVER THREAT SPREADING IN THE AMERICAS

Kim Knowlton, Gina Solomon and Miriam Rotkin-Ellman. Natural Resources Defense Council (NRDC). Issue Paper. July 2009. 22 pages.

<http://www.nrdc.org/health/dengue/files/dengue.pdf>

Over the past decades, several infectious diseases have increased in incidence and expanded into new geographic areas. Global warming threatens to further exacerbate the spread of many infectious diseases because increases in heat, precipitation, and humidity can foster better conditions for tropical and subtropical insects to survive and thrive in places previously inhospitable to those diseases. This report

finds that two types of mosquitoes capable of transmitting dengue fever can now be found across at least 28 states. As temperatures rise, the potential for transmission of this dangerous disease may increase in vulnerable parts of the United States as warmer temperatures and changing rainfall conditions expand both the area suitable for the mosquito vectors and the length of the transmission season. An estimated 173.5 million Americans live in counties with one or both of the mosquito species that can transmit dengue fever.

#### KEY SCIENTIFIC DEVELOPMENTS SINCE THE IPCC FOURTH ASSESSMENT REPORT

Pew Center on Global Climate Change. Science Brief no 3. June 2009. 6 pages.

<http://www.pewclimate.org/docUploads/Key-Scientific-Developments-Since-IPCC-4th-Assessment.pdf>

The Intergovernmental Panel on Climate Change (IPCC) released its Fourth Assessment Report in 2007, summarizing the scientific community's current understanding of the science of climate change. Since that time, a number of new scientific results have been published that expand our understanding of climate science. This brief summarizes some of the key findings since the last IPCC assessment.

#### MAINTAINING CARBON MARKET INTEGRITY: WHY RENEWABLE ENERGY CERTIFICATES ARE NOT OFFSETS

Pew Center on Global Climate Change. Offset Quality Initiative. June 2009. 12 pages.

[http://www.pewclimate.org/docUploads/OQI-REC-Brief-Web\\_0.pdf](http://www.pewclimate.org/docUploads/OQI-REC-Brief-Web_0.pdf)

This brief explains how and why renewable energy certificates (RECs) differ from greenhouse gas (GHG) emission offsets (offsets). While the Offset Quality Initiative (OQI) is a strong supporter of renewable energy and believes it has a critical role to play in addressing climate change, OQI does not believe that RECs sold in voluntary green power or mandatory renewable energy portfolio standard (RPS) markets should be treated as equivalent to GHG offsets. REC programs fail to meet two basic definitional requirements of emissions offsets: First, they do not adequately establish a clear and unambiguous claim of ownership to emission reductions. Second, they fail to adequately establish that RECs are associated with offsetting emission reductions. Specifically, REC programs do not ensure that emission reductions are additional to what would have occurred in the absence of a REC market.

#### COST OF THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 FOUND TO BE SMALL ACCORDING TO GOVERNMENT ANALYSES

Pew Center on Global Climate Change. Climate Policy Memo #3. June 2009. 2 pages.

<http://www.pewclimate.org/docUploads/PolicyMemo3-Model-Summary-July09.pdf>

Economic analysis by its nature is better suited to providing insights and not absolute predictions of the future and when these insights are confirmed by more than one analysis, the results are typically considered more credible. With this in mind, two recent government analyses that looked at the costs of the cap and trade portion of the American Clean Energy and Security (ACES) Act of 2009 have found that the likely impact of this portion of the bill would be fairly small. Taking into account the included cost containment provisions and that much of the revenue raised by the bill would be returned in some fashion to households, both EPA and CBO suggest that household impacts would be less than \$200 per year.

#### 10 COOL GLOBAL WARMING POLICIES

Iain Murray and H. Sterling Burnett. National Center for Policy Analysis (NCPA). Policy Report No. 321. June 2009. 32 pages.

<http://www.ncpa.org/pdfs/st321.pdf>

What should be done about the threat of global warming? Unfortunately, many proposals -- including mandatory limits on carbon dioxide (CO<sub>2</sub>) emissions -- would be much more costly to society than the danger it seeks to avert. Fortunately, there are policies that could be adopted that are desirable in their own right and are commendable, even if there were no threat of global warming. These policies would reduce greenhouse gas emissions, increase energy efficiency, reduce harms associated with global warming or increase the world's capabilities to deal with climate-change-associated problems.

#### COMMUNITIES TACKLE GLOBAL WARMING: A GUIDE TO CALIFORNIA'S SUSTAINABLE COMMUNITIES AND CLIMATE PROTECTION ACT (SB 375)

Tom Adams, Amanda Eaken and Ann Notthoff. Natural Resources Defense Council (NRDC). June 2009. 34 pages.

<http://www.nrdc.org/globalWarming/sb375/files/sb375.pdf>

California's Sustainable Communities and Climate Protection Act, or SB 375, is the nation's first legislation to link transportation and land use planning with global warming. SB 375 is an important step toward a cleaner, healthier, and more prosperous California. Countless diverse interests have a stake in the creation of sustainable and livable communities. The incentive-based approach of SB 375 encourages citizens and local leaders to shape the sustainable future of their communities through a participatory process. Changing political leadership, market demand, and public opinion mean that the time is right for a new approach to land use planning. SB 375 provides a new paradigm, putting California on the path to a more sustainable prosperity as well as a cleaner environment.

#### GREEN BUILDING

#### IMPROVING THE ENERGY PERFORMANCE OF BUILDINGS: LEARNING FROM THE EUROPEAN UNION AND AUSTRALIA

Charles P. Ries, Joseph Jenkins and Oliver Wise. Rand Corporation. Technical Report. September 21, 2009. 61 pages.

[http://www.rand.org/pubs/technical\\_reports/2009/RAND\\_TR728.pdf](http://www.rand.org/pubs/technical_reports/2009/RAND_TR728.pdf)

In recent years, the European Union and its member nations and the Australian Commonwealth and some of its states and territories have pioneered policies to promote energy efficiency in buildings and to address market features that make energy efficiency difficult to achieve. This study examines how these policies have worked and draws implications for the design of similar public policies for the United States.

#### THE ECONOMICS OF ENERGY EFFICIENCY IN BUILDINGS

Trevor Houser. Peterson Institute for International Economics. Policy Brief No. 09-17. August 2009. 13 pages.

<http://www.iie.com/publications/pb/pb09-17.pdf>

At the 2008 summit in Hokkaido, Japan, and again this summer in L'Aquila, Italy, G-8 leaders called for a 50 percent reduction in greenhouse gas (GHG) emissions by 2050 in order to avert the most serious dangers from global climate change. Improving the energy efficiency of buildings is essential: The

International Energy Agency (IEA) has estimated that meeting the G-8's emission-reductions goal will require reducing annual GHG emissions from the building sector by 8.2 billion tons by 2050 below business as usual. While previous studies have shown that the cost of emissions abatement in the buildings sector is cheaper than in many other sectors, few studies have attempted to model what policies will be required to reduce building-sector emissions in line with the IEA's calculations.

## ENVIRONMENTAL PROTECTION AND CONSERVATION

### HOW NOT TO KILL THE OCEANS FOR FISH

Alex David Rogers. Yale Center for the Study of Globalization. September 18, 2009.

<http://yaleglobal.yale.edu/content/how-not-kill-oceans-fish>

The oceans and the seas -- lifegivers to billions of people through sustenance and subsistence -- are being quickly depleted of their fish through wasteful fishing methods, fisher overcapacity, and illegal fishing. The degradation not only affects the sustainability of an important food source and the age-old industry of fishing, it also harms the largest ecosystem in the world as coral reefs become more fragile and dead zones proliferate due to lack of oxygen. But this decline can be forestalled. Giving resource ownership back to the fisheries while setting quotas on the total allowable catch is one method. Improving governance of fisheries -- of which a proposal has been set forth in Rome recently -- is another. Even reducing the amount of unwanted catch -- known as by-catch -- through improved fishing techniques could significantly reduce depletion.

### MEASURING NATURE'S BENEFITS: A PRELIMINARY ROADMAP FOR IMPROVING ECOSYSTEM SERVICE INDICATORS

Christian Layke. World Resources Institute (WRI). Working Paper. September 2009. 36 pages.

[http://pdf.wri.org/measuring\\_natures\\_benefits.pdf](http://pdf.wri.org/measuring_natures_benefits.pdf)

Ecosystem services are the benefits that people derive from nature. Some benefits, such as crops, fish, and freshwater (provisioning services), are tangible. Others such as pollination, erosion regulation, climate regulation (regulating services) and aesthetic and spiritual fulfillment (cultural services) are less tangible. All, however, directly or indirectly underpin human economies and livelihoods. Despite their critical importance, the capacity of ecosystems to provide these myriad services is being degraded at an alarming rate. Knowing where indicators and data are already sufficient to inform policy-makers' understanding of ecosystem services, and where they fall short, will help inform mainstreaming efforts in international and national arenas. This paper compiles and assesses current ecosystems services indicators in order to inform and advance such efforts.

### LEGALLY REDD: BUILDING READINESS FOR REDD BY SUPPORTING DEVELOPING COUNTRIES IN THE FIGHT AGAINST ILLEGAL LOGGING

Florence Daviet. World Resources Institute (WRI). Working Paper. August 10, 2009. 4 pages.

[http://pdf.wri.org/legally\\_redd.pdf](http://pdf.wri.org/legally_redd.pdf)

If reducing emissions from deforestation and forest degradation (REDD) is to work effectively, developing countries will need support to build the capacities required for enforcing their own laws and regulations. At present, timber production that violates the developing country's own laws both acts as a barrier to REDD and costs these countries billions of dollars per year. This paper examines the approach taken by Parties to the challenge of illegally produced timber, and proposes measures to support

developing countries in tackling this problem that could form part of the climate framework to be negotiated in Copenhagen.

#### A CLEAR BLUE FUTURE: HOW GREENING CALIFORNIA CITIES CAN ADDRESS WATER RESOURCES AND CLIMATE CHALLENGES IN THE 21ST CENTURY

Noah Garrison, Robert C. Wilkinson and Richard Horner. Natural Resources Defense Council (NRDC). Technical Report. August 2009. 53 pages.

[http://www.nrdc.org/water/lid/files/lid\\_hi.pdf](http://www.nrdc.org/water/lid/files/lid_hi.pdf)

As global warming threatens U.S. water resources, communities are faced with a need to respond quickly and economically to water supply shortfalls. Both the snowpack and surface runoff that form a critical supply of potable water for western states are being affected by higher temperatures. Low impact development, or LID, is a land planning and engineering design approach to stormwater management that enables cities, states, and individuals to increase access to safe and reliable sources of water while reducing the amount of energy consumed and global warming pollution generated by supplying the water. Implementing LID practices at new and redeveloped residential and commercial properties in parts of California can increase water supplies by billions of gallons each year, providing an effective and much-needed way to mitigate global warming's impact on California.

#### GREEN TRADE BALANCE

Samuel Sherraden and Jason Pequet. New America Foundation. New American Contract Policy Paper. June 22, 2009. 7 pages.

[http://www.newamerica.net/files/Green\\_Trade\\_Balance.pdf](http://www.newamerica.net/files/Green_Trade_Balance.pdf)

Green investment is a major pillar of the president's economic recovery plan. Yet, America's dependence on foreign countries to produce green technologies may undermine this recovery strategy. Using a list of green goods derived from the Organization of Economic Cooperation and Development (OECD) and the Asia-Pacific Economic Cooperation (APEC), we have determined that the United States ran an overall green trade deficit of -\$8.9 billion in 2008, including a deficit of -\$6.4 billion in the critical category of renewable energy, one of the main targets of the Obama administration's green agenda. The U.S. economy also suffered a significant deficit in the pollution management category. If current trends continue, the green trade deficit can be expected to widen further as the administration's agenda increases domestic demand but without sufficient measures to increase domestic production. If the deficit continues to grow, the United States will forego the creation of millions of high-wage, high-skill green manufacturing jobs and lose its potential to be a global producer as well as a consumer of green technologies.

### POLLUTION

#### EUTROPHICATION: POLICIES, ACTIONS, AND STRATEGIES TO ADDRESS NUTRIENT POLLUTION

Mindy Selman and Suzie Greenhalgh. World Resources Institute (WRI). Policy Note No3. September 2009. 16 pages.

[http://pdf.wri.org/eutrophication\\_policies\\_actions\\_and\\_strategies.pdf](http://pdf.wri.org/eutrophication_policies_actions_and_strategies.pdf)

Nutrient over-enrichment of freshwater and coastal ecosystems -- or eutrophication -- is a rapidly growing environmental crisis. Worldwide, the number of coastal areas impacted by eutrophication stands

at over 500. In coastal areas, occurrences of dead zones, which are caused by eutrophic conditions, have increased from 10 documented cases in 1960 to 405 documented cases in 2008. In addition, many of the world's freshwater lakes, streams, and reservoirs suffer from eutrophication; in the United States, eutrophication is considered the primary cause of freshwater impairment.

#### POISONING THE WELL: HOW THE EPA IS IGNORING ATRAZINE CONTAMINATION IN THE CENTRAL UNITED STATES

Mae Wu, Mayra Quirindongo, Jennifer Sass and Andrew Wetzler. Natural Resources Defense Council (NRDC). August 2009. 33 pages.

<http://www.nrdc.org/health/atrazine/files/atrazine.pdf>

Banned in the European Union and clearly linked to harm to wildlife and potentially to humans, the pesticide atrazine provides little benefit to offset its risks. According to the authors of this report, approximately 75 percent of stream water and about 40 percent of all groundwater samples from agricultural areas tested in an extensive U.S. Geological Survey study contained atrazine, and the U.S. EPA's inadequate monitoring systems and weak regulations have compounded the problem, allowing levels of atrazine in watersheds and drinking water to peak at extremely high concentrations.

#### THE SCIENCE AND CONSEQUENCES OF OCEAN ACIDIFICATION

Pew Center on Global Climate Change. Science Brief no 3. August 2009. 8 pages.

<http://www.pewclimate.org/docUploads/ocean-acidification-Aug2009.pdf>

Since the Industrial Revolution, the acidity of the world's oceans has increased significantly. This change is entirely the result of human activities. About one third of all the carbon dioxide (CO<sub>2</sub>) emitted by human activities has been absorbed by the oceans. The uptake of CO<sub>2</sub> by the oceans produces carbonic acid, altering the chemistry of the oceans and making seawater corrosive to some minerals. Without strong action to reduce CO<sub>2</sub> emissions, the oceans will deteriorate to conditions detrimental to shellforming organisms, coral reefs, and the marine food chain, thus threatening fisheries and marine ecosystems generally. This brief describes the changes in the chemistry of the world's oceans and explores the potential implications for marine ecosystems and the global food supply.

#### ACID TEST: CAN WE SAVE OUR OCEANS FROM CO<sub>2</sub>?

Ellycia Harrould-Kolieb and Jacqueline Savitz. Oceana. June 2009. 32 pages.

[http://oceana.org/fileadmin/oceana/uploads/Climate\\_Change/Acid\\_Test\\_Report/Acidification\\_Report.pdf](http://oceana.org/fileadmin/oceana/uploads/Climate_Change/Acid_Test_Report/Acidification_Report.pdf)

This report documents increasing carbon dioxide levels in the oceans as a result of carbon dioxide releases to the atmosphere. The result is an increase in the acidity levels of ocean waters. The process, which is known as ocean acidification, reduces the ability of marine animals such as corals, crabs, lobsters, clams and oysters to create calcium carbonate skeletons and shells, which will likely reduce their survival rates, and their ability to mature and reproduce. Such a decline and widespread death of coral reefs will cost society billions of dollars annually in lost fishing and tourism revenue and will jeopardize the coastal protection services that coral reefs otherwise provide.

#### INDICATORS OF ECOLOGICAL EFFECTS OF AIR QUALITY

The H. John Heinz III Center for Science, Economics and the Environment and Ceres. June 2009. 95 pages.

[http://www.heinzctr.org/Programs/Reporting/Air\\_Quality/aq\\_docs/AQ%20full%20report%20low%20res.pdf](http://www.heinzctr.org/Programs/Reporting/Air_Quality/aq_docs/AQ%20full%20report%20low%20res.pdf)

Ecological indicators are needed to improve understanding and monitoring of the effects of air pollutants on ecosystems and to scientifically assess the effectiveness of air pollution control strategies.

Traditionally, research and monitoring of air quality have focused on human health impacts and have been concentrated in urbanized areas, however pollution impacts on ecosystems are an equally important measure of how well our emission control policies are working. Decision-makers need tools to help them understand whether and how their decisions are contributing to the achievement of air quality goals. Ecosystem monitoring is one such tool; chosen well, indicators of ecosystem change can help to inform policy development and implementation by documenting whether emission control policies and programs are working as intended and helping to determine if policy change is needed to achieve further ecosystem protection.

#### NANO & BIOCIDAL SILVER: EXTREME GERM KILLERS PRESENT A GROWING THREAT TO PUBLIC HEALTH

Friends of the Earth. June 2009. 48 pages.

[http://www.foe.org/sites/default/files/Nano-silverReport\\_US.pdf](http://www.foe.org/sites/default/files/Nano-silverReport_US.pdf)

Silver has long been known to be a potent antimicrobial agent. However, its use has exploded in recent years, in medical applications and also in many consumer products, including children's toys, babies' bottles, cosmetics, textiles, cleaning agents, chopping boards, refrigerators and dishwashers. Much of the silver used in these products today is manufactured at the nano-scale, meaning it is present in extremely tiny particles that behave differently than larger particles and are especially potent. Studies suggest that the widespread use of nano-silver poses serious health and environmental risks and that it could promote anti-bacterial resistance, undermining its efficacy in a medical context.

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<http://france.usembassy.gov/web-alert.html>