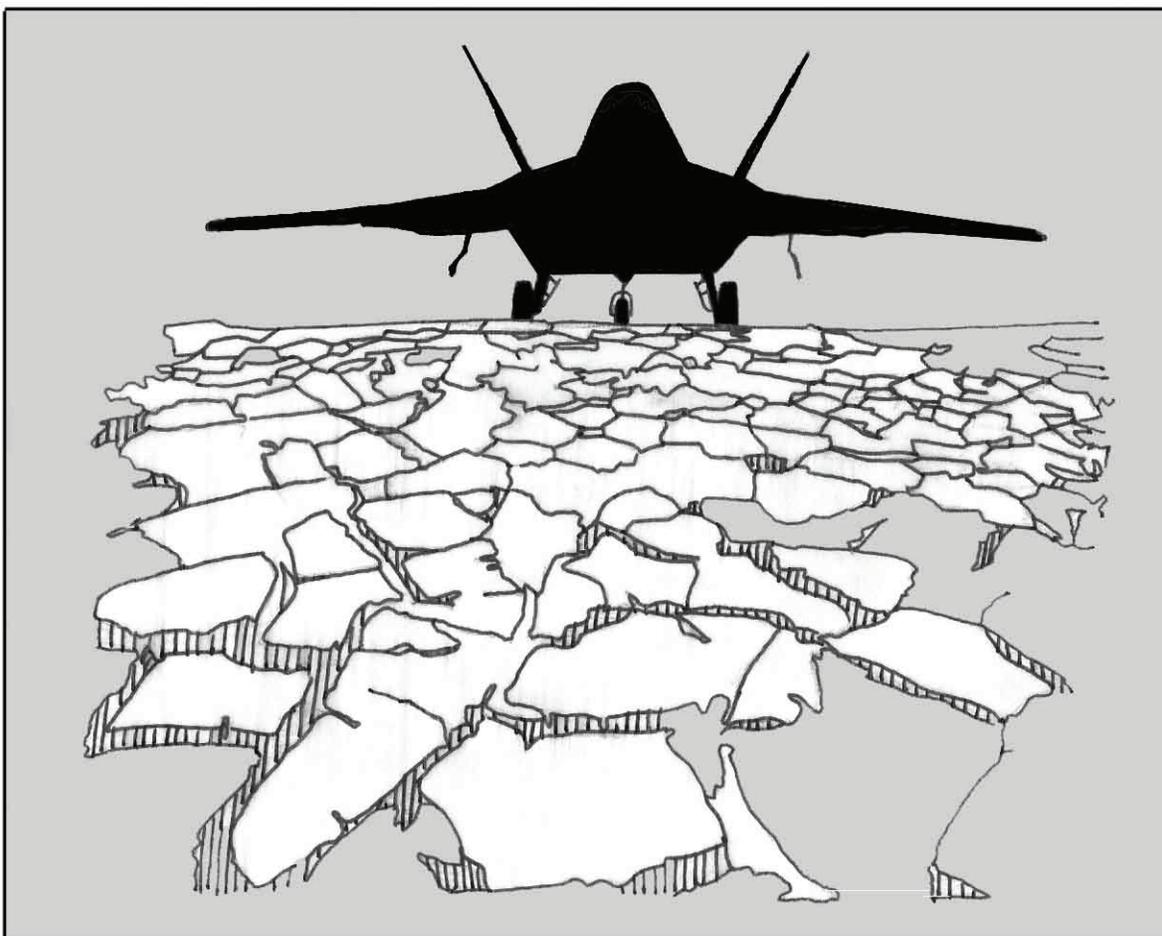


THE BUDGETS COMPARED:

# Military vs. Climate Security



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A PROJECT OF THE INSTITUTE FOR POLICY STUDIES  
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# Executive Summary

Accepting his Nobel Peace Prize, Al Gore called on the nations of the world to mobilize to avert climate disaster “with a sense of urgency and shared resolve that has previously been seen only when nations have mobilized for war.”

This report measures in fiscal terms how far our own nation has to go to reach that goal. For the 2008 fiscal year, the government budgeted \$647.51 billion for military security. It budgeted \$7.37 billion to slow climate change. That means:

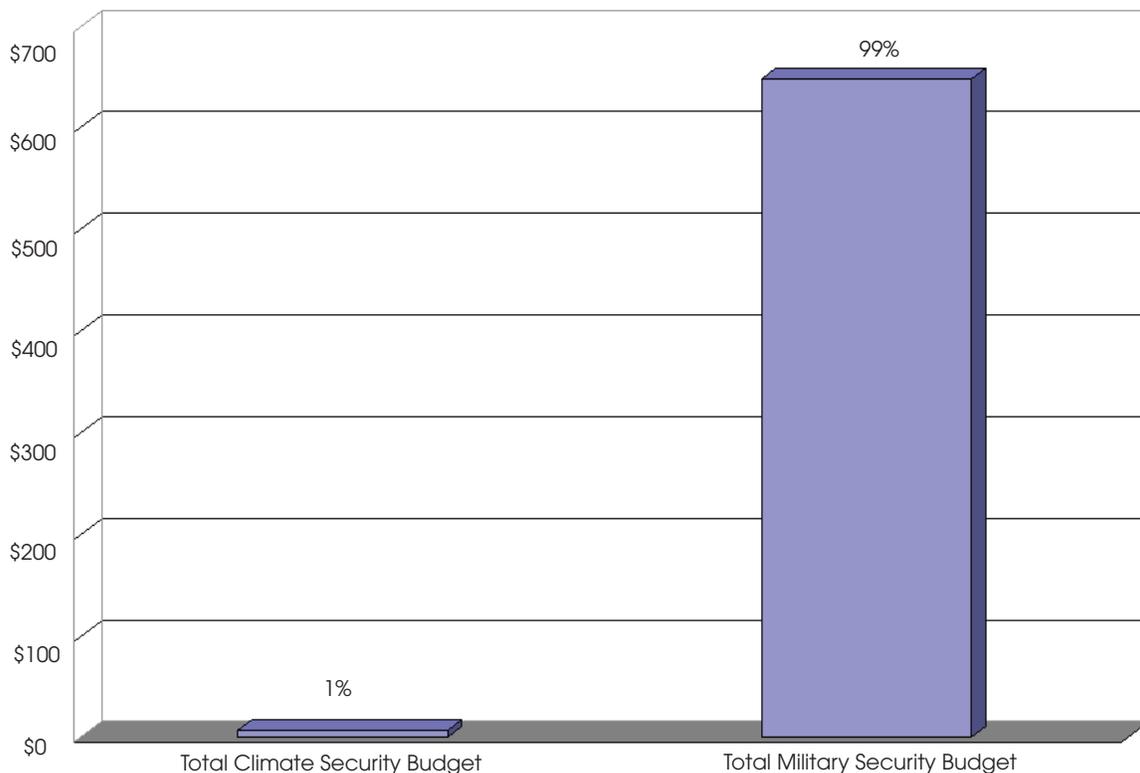
- **FINDING:** For every dollar allocated for stabilizing the climate, the government will spend \$88 on achieving security by military force.

- **FINDING:** The government is allocating 99% of combined federal spending on military and climate security to military security.

Releasing its latest report to Congress on federal climate spending, the Bush administration highlighted the fact that during the previous five years it had spent more than \$37 billion for this purpose. During the same period, it spent more than \$3.5 *trillion* on its military forces. That means:

- **FINDING:** During the last five years the ratio of military security to climate security spending has averaged 97 to 1.

## FY 2008 FEDERAL SPENDING: MILITARY SECURITY VS. CLIMATE SECURITY



Executive Office of the President: Office of Management and Budget. Federal Climate Change Expenditures Report to Congress.. May 2007.  
Steven M. Kosiak, Center for Strategic and Budgetary Assessment. Historical and Projected Funding for Defense: Presentation of the FY 2008 Request in Tables and Charts. June 2007.

- **FINDING:** In FY 2008, as well as during the past five years, the government has allocated for climate security only *one percent* of what it has devoted to military security.

The current ratio of \$88 to \$1 is, no question, an improvement over \$97 to \$1. It is also, no question, an inadequate improvement, given the relative magnitude of these problems. Terrorism is a serious problem. It doesn't surround us. The effects of climate change, on the other hand, will. As the Nobel Committee said in awarding its Peace Prize to Gore and the Intergovernmental Panel on Climate Change, it "may alter and threaten the living conditions of much of mankind." Shifting the balance of resources between these two accounts will be one necessary part of a strategy for averting climate catastrophe.

The federal government allocates the lion's share of spending on climate to technology development: about \$3.9 billion for FY 2008. The Defense Department's re-

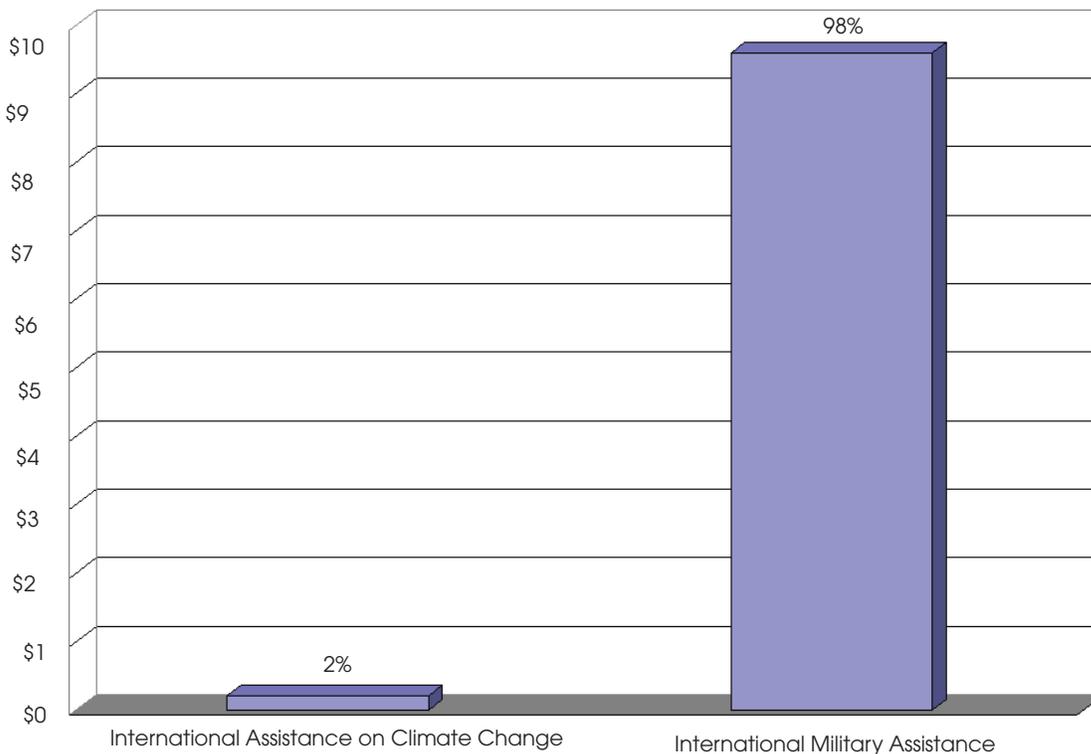
search and development (R&D) budget is \$77 billion. That means:

- **FINDING:** The U.S. government budgeted \$20 to develop new weapons systems for every dollar it requested to develop new technologies to stabilize the climate.

Climate change is a global problem that won't be solved except through international cooperation. The government allocates the smallest share of the current climate budget to working on the problem internationally, providing resources to assist other countries in their energy transition: \$212 million. Meanwhile the federal budget's military security assistance account allocates \$9.5 billion to international military assistance.<sup>1</sup> In other words:

- **FINDING:** We will devote 50 times as much to arming the rest of the world as to helping it prepare for and avoid global climate catastrophe.

## FY 2008 INTERNATIONAL ASSISTANCE COMPARISON



Executive Office of the President: Office of Management and Budget. Federal Climate Change Expenditures Report to Congress. Table 6: International Climate Change Assistance. May 2007. Kosiak, Steven M. Center for Strategic and Budgetary Assessment. Historical and Projected Funding for Defense: Presentation of the FY 2008 Request in Tables and Charts. June 2007.

- **FINDING:** The government allocates just 2% of the international assistance budget for both military and climate security to stabilizing climate.

The targets of U.S. foreign aid within the climate change budget are nearly as problematic as its size. Nearly half of the budget is allocated to an (unproven) strategy for mitigating the effects of existing coal-fired power generation infrastructure, rather than assisting in the transition to cleaner renewable energy sources. Most of the rest is devoted to promoting U.S. technologies that may or may not be the most suitable to the recipients' needs. The budget allocates less than 10% of spending to adapting to climate change effects, such as droughts, floods, crop loss and disease. And an amount barely worth mentioning, less than 1% of the budget, is devoted to assisting donor countries in participating in the broad systemic, global changes that we must make to avert climate disaster.

Overall, the largest shares of the climate change budget's resources are spent on studying the problem and developing new technologies for the future. The two programs that are focused on tackling the problem now—international assistance and tax incentives—are its lowest priorities. In the FY 2008 budget, the U.S. government actually *cuts* funding for the principal budgetary (as opposed to regulatory) tool—the \$1.4 billion collection of tax incentives—that's most likely to cut U.S. greenhouse emissions in the near term. Stabilizing climate isn't a problem that can wait.

In addition to laying out the disparities between the two budgets and analyzing where the money is going, this report traces the connections between military and climate security, including the following:

- Climate change will create enormous problems for the U.S. military, as the military itself has confirmed.
- The U.S. military contributes to the problem of climate change more than any other single institution worldwide.
- The Bush administration's foreign policy of leading with one (the military) and largely ignoring the other (stabilizing climate) are the two most prominent causes of the United States' loss of standing in the world.

Shifting the balance in federal spending between military and climate security will help to repair the damage to our international reputation. It will also provide resources necessary to get serious, finally, about addressing the major challenge of our time.

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## ENDNOTES

1. The crisis in Pakistan highlights the potential costs, as opposed to benefits, of U.S. military assistance. According to recent published reports, Pakistan has used substantial portions of the \$11 billion in U.S. military aid since 9-11, not for counterterrorism, but to buying weapons systems designed for a confrontation with its nuclear rival, India. See David Rohde, Carlotta Call, and Eric Schmitt, "U.S. Officials See Waste in Billions Sent to Pakistan," *The New York Times*, December 12, 2007.



# Introduction

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In the fall of 2007, the states of Georgia, Florida, and Alabama began fighting with each other over water. A single year of drought—then shaping up as the worst ever recorded—had brought them to this.

In October, Georgia Governor Sonny Perdue declared a drought state of emergency, and filed suit against the Army Corps of Engineers, which manages water flow in the region. The suit demanded that the Corps send less water downstream from Georgia lakes into Alabama and Florida.<sup>1</sup> The governors of Alabama and Florida, equally afflicted, lodged protests of their own. Alabama Governor Bob Riley claimed that a better record of conservation entitled his state to a higher share. Secretary of the Interior Dirk Kempthorne came down to mediate.

That meant that he had to try to manage the other major crisis of his jurisdiction, over on the opposite coast, by phone. That was the southern California wildfires, which by the time they were contained had caused an estimated \$1 billion of damage to 1,600 homes across 300,000 acres. Since the 1970s, higher average temperatures have increased the duration of the average fire season in the region by more than two months, along with their frequency and their ferocity.<sup>2</sup>

Meanwhile in between these two crises, the Gulf Coast continued its two-year struggle for recovery from the devastation wrought by hurricanes Katrina and Rita.

In these and other events, the United States is getting a small taste of the Extreme Weather Events that the global scientific community agrees, in outline if not in detail, climate change will wreak across the globe. So far, despite producing about a quarter of the planet's greenhouse gases and only having 5% of the world's population, America has gotten off relatively lightly.

A heat wave in Europe during the summer of 2003 killed more than 30,000 people. Britain's chief scientific adviser, Sir David King, called it "the biggest natural disaster in Europe on record." Recent climate models published in the science journal *Nature* conclude that this was far from an aberration. "According to the model predictions, by the 2040s, the 2003-type summers will be happening every year," said Peter Stott, a climate

scientist with the Hadley Centre for Climate Prediction and Research in Exeter.<sup>3</sup>

In the developing world, extreme weather has been a millennial legacy, featuring cycles of drought and flooding in many parts of Africa and the Indian subcontinent. The 2004 tsunami, which killed more than 225,000 people across 11 countries in a matter of hours, was only the most dramatic recent catastrophe caused by extreme weather events. A cyclone that swept across Bangladesh in mid-November, with a death toll the Red Crescent estimated at more than 10,000 people, held its prominence in the U.S. media for only a day or two.<sup>4</sup> The 1970 cyclone there killed between 300,000 and 500,000; the 1991 version killed 140,000.

Climatic crises accelerated in 2007. Africa experienced its worst flooding in three decades. The United Nations launched 15 "flash appeals," the highest number ever in one year, all but one of which responding to climatic disasters.<sup>5</sup>

The global scientific consensus leaves no doubt that while climate change will change and challenge life for all of us, its effects will be most severe in the developing world, affecting those least able to absorb them. Rising sea levels will wipe out the home territories of millions, leading to mass migrations that will put stress on the communities inland. Expanding deserts will make more land unarable and therefore uninhabitable.

The milder winters warmed by climate change have already allowed the spread of such vector-borne diseases as malaria and cholera to areas of the world they have never been before. West Nile virus, never seen on this continent until seven years ago, has infected more than 21,000 people in the United States and Canada and killed more than 800. And the pace of these changes has surprised even those who have been anticipating them. Harvard researcher Paul Epstein said in 2006 that scientists are finding changes they expected in 2080 are emerging already.<sup>6</sup>

Without concerted, major changes in the way we all live to reduce substantially our greenhouse gas emissions, it's clear that Extreme Weather will more and more be the experience of us all. According to James Hansen, director of NASA's Goddard Institute for Space Studies,

the planet has warmed one degree in the last 30 years. The gases now in the atmosphere will warm it another degree. And the energy infrastructure—power plants and vehicles—we currently use will raise it one more. Continuing on the current path, Hansen says, will produce what he calls “another planet—one without sea ice in the Arctic; with worldwide, repeated coastal tragedies associated with storms and a continuously rising sea level; and with regional disruptions due to freshwater shortages and shifting climatic zones.”<sup>7</sup>

Hurricane Katrina provided Americans with an education into how unprepared we are for what is coming.

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7. James Hansen, “Why We Can’t Wait,” *The Nation*, May 7, 2007, p.13.

# Climate Change and Security

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A cadre of researchers has been analyzing the linkages between climate change and security for more than a decade. The most sustained attention to this nexus has come from the Woodrow Wilson Center for International Scholars' Environmental Change and Security Program. Its 12<sup>th</sup> annual report focused on the “quieter—yet often more lethal—conflicts” over scarce resources that most security experts miss because they are paying closer attention to large-scale state-sponsored violence. “Such local conflicts may have larger ‘neighborhood’ effects, contributing to wars and humanitarian disasters,” according to the report.<sup>1</sup> In the scenarios for global resource depletion climate scientists now agree on, such effects are certain to multiply.

This linkage gained a higher profile in October, with the news that the International Panel on Climate Change and former Vice President Al Gore had won the Nobel Peace Prize for their work on climate change. The Nobel Committee recognized the IPCC's work in forging the collaboration among thousands of scientists and officials from more than 100 countries to achieve broad consensus on the existence and planet-altering consequences of climate change, and Gore's concerted and creative work to spread word of this consensus to the rest of us. The award clearly confirmed that climate change is a peace issue: Without concerted, planetary action on climate change, there will be no peace on earth.

The “fight” over water this fall between the three states of America's southeast corner has been waged among public officials, in courts, legislatures and press releases—that is, non-violently. That's far from the norm among current fights over scarce water resources around the world. Climate change will elevate the threat of violent resource wars exponentially. An academic researcher (and Foreign Policy In Focus columnist) who has examined the nexus of fossil fuel dependency and violent conflict through three books, Michael Klare, makes the case that the majority of future conflicts will be based in this connection.<sup>2</sup>

## ENDNOTES

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2. Michael Klare, *Resource Wars* (Owl Books, 2002); *Blood and Oil: The Dangers and Consequences of America's Growing Petroleum Dependency* (Metropolitan Books, 2005); and the forthcoming, *Rising Powers, Shrinking Planet: The New Geopolitics of Energy* (Metropolitan Books, 2008).

# Military Identifies Climate Change as a Security Threat

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The “military mindset” is frequently tagged by the line “If the only tool you have is a hammer, every problem looks like a nail.” But in fact, some members of the military have opened their eyes to the dimensions of a security problem its hammers will be powerless to fix. In 2003, Air Force General Charles Wald was directed to conduct a strategic evaluation of the threats to the U.S. European Command, as its deputy director. His report focused in part on the loss of arable land caused by the drought in the Darfur region, and its role in the conflict there. Retired Army General Paul Kern’s command experience allowed him to observe first-hand the “creeping desertification of the Sahara.”

“Each year the desert was expanding, causing more refugees,” he said. “If you don’t have water and you don’t have food and the environment becomes too hot or too cold, then you move... When you have these great instabilities which push people out of the places... then you have a multiplying effect on the consequences.”<sup>1</sup>

Kern’s experiences led him to join a task force of fellow retired generals that in May of 2007 issued its conclusions in the report, “National Security and the Threat of Climate Change.” Its principal findings:

- Projected climate change poses a serious threat to America’s national security;
- Climate change acts as a threat multiplier for instability in some of the most volatile regions of the world;
- Projected climate change will add to tensions even in stable regions of the world; and
- Climate change, national security, and energy dependence are a related set of global challenges.

All of these conclusions are true. It’s also true that, in addition to making a serious study of the security implications of climate change, the military has taken steps to reduce its own emissions, with an action plan that ranges from more efficient building, heating and cooling standards, to the use of hybrid vehicles. On December 17, 2007, the Air Force unveiled the largest installation of solar panels in North America, at Nellis Air Force Base near Las Vegas.

All these worthy efforts haven’t changed the fact that the U.S. military remains the largest institutional consumer of energy, and emitter of greenhouse gases, on the planet. Its energy bill actually increased last year from \$10.9 to \$13.6 billion, consuming the equivalent of 340,000 barrels of oil a day, or 1.5% of the U.S. total.<sup>2</sup>

Assessing the relative magnitudes of the two challenges of climate change and military threats is difficult and complex, involving, appropriately, mostly long-term, big-picture thinking. Occasionally the conflict between them comes into sharp focus, for Americans, close to home and in the immediate present. Such is the case with the 2007 California wildfires and the 2005 Katrina disaster. The Iraq War, like no other conflict before it, has pulled National Guard troops, whose mission is supposed to be focused on crises at home, to a war zone half a world away. According to public officials in both Louisiana and California, the unprecedented Iraq deployments had depleted the ranks of the National Guard troops they needed to cope with these crises.<sup>3</sup>

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## ENDNOTES

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# Military Security vs. Climate Security

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In November 2007, *The Washington Post* published excerpts from the hundreds of internal memos former Defense Secretary Donald Rumsfeld circulated during his tenure. Among these “snowflakes,” as he called them, were directives to staff to “keep elevating the threat.” The way to do this, one “snowflake” suggested, was to “Talk about Somalia, the Philippines, etc. Make sure the American people realize they are surrounded in the world by violent extremists.”<sup>1</sup>

This vision is the rationale for the Bush administration’s Global War on Terror. The desperation in Rumsfeld’s memo—using the presence of violence-minded groups in Somalia and Philippines to signify a world of violent extremists surrounding America—indicates how tenuous this rationale is. The Pentagon itself this year dropped the Global War on Terror (GWOT) term, though Bush still insists on using it.

And the U.S. intelligence community has concluded that the centerpiece of this “Global War,” in Iraq, has created more terrorists than it has killed and is expanding the threat rather than containing or “ending” it.<sup>2</sup>

Yet the military budget to sustain both the wars in Iraq and Afghanistan and the amorphous War on Terror continues to grow. In 2008 it will consume more money than is spent by all other military forces in the world *put together*.<sup>3</sup>

Having lapped the rest of the world in spending, the U.S. military is now making the case that it needs to accelerate. The civilian and military leadership is laying the groundwork for even higher requests, promised *even if and when* a drawdown of forces in Iraq and Afghanistan occurs. That means even with savings of hundreds of billions of dollars in the event of a withdrawal, the military budget will, according to this theory, need an increase above its current wartime levels.

Admiral Mike Mullen, chairman of the Joint Chiefs of Staff, and Defense Secretary Robert Gates tie their arguments to the strange benchmark of defense spending as a percentage of Gross Domestic Product. Pegging military spending to a higher overall amount of private as well as public national wealth implies that a higher percentage of this private wealth should pay for defense. In other words, more wealth should be taxed to do so. Mullen and Gates are not, needless to say, making this case.

More importantly, the notion that the United States should spend more because (arguably) it can is poorly connected to the only truly relevant benchmark for defense spending, namely, how much is needed to counter the security challenges we face.

One’s answer depends on one’s assumptions about the missions the U.S. military should carry out. Commenting on the case for increased military spending based on GDP, Pierre Chao, a senior fellow at the centrist Center for Strategic and International Studies, said military leaders believe the current budget is sufficient to prepare to take on a peer military competitor. However, Chao said, the role of “global cop” would require more money.<sup>4</sup>

With respect to the first mission—countering a peer competitor—we don’t, of course, have one. During the Cold War the Soviet Union was willing to try to match U.S. military spending. Since that adversary disintegrated no country, or group of countries, is even trying. Of the two countries most often proposed for that role, most estimates put Chinese military spending at around \$80 billion, and Russia’s at around \$20 billion.<sup>5</sup> The U.S. outspends both of them together by a factor of more than six to one.

As for those two countries Secretary Rumsfeld wanted to promote as threats: The Philippines spends less than \$1 billion a year on its military, i.e. roughly 1/650<sup>th</sup> of our own expenditures. Somalia spends an amount too negligible to measure.<sup>6</sup>

And the current target of the Bush administration’s threat-generating machine, namely Iran? In his *Newsweek* column in late October 2007, Fareed Zakaria put it this way:

Iran has an economy the size of Finland’s and an annual defense budget of around \$4.8 billion. It has not invaded a country since the late 18th century. The United States has a GDP that is 68 times larger and defense expenditures that are 110 times greater. Israel and every Arab country (except Syria and Iraq) are quietly or actively allied against Iran. And yet we are to believe that Tehran is about to overturn the international system and replace it with an Islamo-fascist order? What planet are we on?

As for the mission of “global cop”—the one Chao cites as driving the call for higher budgets: It’s rejected by the American public in poll after poll.<sup>7</sup>

Terrorism is a serious problem, but Rumsfeld notwithstanding, it doesn’t “surround” us. The effects of climate change, on the other hand, will. As the Nobel Committee said, it “may alter and threaten the living conditions of much of mankind.” These two facts are related. This challenge presents the United States with a major opportunity to repair the damage done by an overmilitarized foreign policy, by embracing the international cooperation that will be required to meet it. Rather than trying to intimidate China by encircling it with military bases, and goading China into an arms race it isn’t currently contending, the United States needs to be working with China, to curb the greenhouse gas emissions race between the two greatest emitters on earth. Closing the budget gap between these two approaches to security is one place to start.

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# The Budgets

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**W**hat is this gap between the military and climate security budgets?

The new century began with a shock to the American system in the form of a major terrorist attack. The response of our government was rapid and concerted, and it spared no expense. This response oriented our foreign policy, and our foreign policy resources, around the use and threat of military force. As the Unified Security Budget task force has been documenting since 2004, the U.S. response to terrorism has consistently devoted nine times the resources to our military as to all spending on our homeland security defenses *and* all forms of non-military engagement with the world put together.

Meanwhile, reports of the consequences of climate change have grown more and more alarming, and the consensus on the need for major, urgent action has strengthened. But no one would argue that the U.S. government has responded in a manner commensurate with either its response to the 9-11 attacks or with the consensus of looming climate catastrophe. It has instead focused most of its attention and comment on the uncertainties of the problem, advocating further study, and deferring action until future technological breakthroughs make action easy and painless.

In remarks on climate change during his first year in office, President George W. Bush emphasized that “we do not know how much effect natural fluctuations in climate may have had on warming. We do not know much our climate could or will change in the future. We do not know how fast change will occur or even how some of our actions could impact it...[and] no one can say with any certainty what constitutes a dangerous level of warming and, therefore, what level must be avoided.”<sup>1</sup>

Rejecting U.S. participation in the Kyoto Protocol soon after taking office, Bush said “[W]e must be very careful not to take actions that could harm consumers. This is especially true given the incomplete state of scientific knowledge of the causes of, and solutions to, global climate change and the lack of commercially available technologies for removing and storing carbon dioxide.”<sup>2</sup>

As the Bush administration enters its final year, it has finally, officially embraced the conclusion of the other Group of Eight (G8) leaders and the International Panel on Climate Change that “urgent action is needed.” Yet as world leaders and environmentalists met in December in Bali to map out that action, the United States remained the principal obstacle to a successor treaty to Kyoto that would set binding limits on greenhouse emissions. It proposed instead a pact among the largest countries for common, long-term goals—without specific targets or limits—that they would have decades to reach.<sup>3</sup>

The Bush administration has also sought to block individual states from setting their own emissions caps. It has committed itself to veto federal legislation that would shift tax incentives from fossil fuels to renewable energy sources, and require increased use of renewables to generate electricity.

And what resources has the government devoted to this “urgent” problem? Unveiling the second-annual “Federal Climate Change Expenditures: Report to Congress” in May 2007, the director of the Office of Management and Budget (OMB) proudly announced that “Since 2001, the United States has invested over \$37 billion in climate change-related activities.”<sup>4</sup> The remainder of this report will analyze this statement, and put it in context.

## MILITARY SECURITY

It’s relatively easy to say what we are spending on our military forces. This spending has its own category in the federal budget, right up at the front. In recent years some complexity has crept in due to a spate of allegedly “emergency” supplemental appropriations, brewing controversies over whether or not to include them as part of the military budget. Mostly these additional appropriation bills fund the entrenched wars in Iraq and Afghanistan. But these so-called emergency bills have also included spending, designated sometimes with inadequate specificity, for the Global War on Terror (GWOT). In addition, the National Defense category of the budget includes spending on nuclear forces within the Energy Department. Overall for FY 2008 the budget totals \$647.5 billion (see chart on p. 16).

## FY 2008 NATIONAL DEFENSE BUDGET (BILLIONS)

DoD Base Budget (051)	\$483.3
GWOT Supplemental Funding	\$141.7
DoE and Other Budget	\$22.5
<b>Total</b>	<b>\$647.5</b>

Steven M. Kosiak, "Analysis of the FY 2008 Budget Request. Table 1: National Defense Budget Authority and Outlays," Center for Strategic and Budgetary Assessment, June 2007.

This total excludes all expenditures on veterans, including the government's pension and health care obligations to them, as well as the astronomical amounts for medical care and disability payments for wounded soldiers. Caring for veterans is an unquestionable moral necessity for our country. But while these expenditures are a direct result of our use of military forces, they do not directly contribute to current and future military security, and therefore are excluded from its budget.

Here are the four largest categories of military spending, representing, in FY 2008, 95.8% of the total (the others are military construction, family housing, and other smaller programs). Though the Defense Department's base budget shows a slight decline in spending on procurement between FY 2007 and FY 2008, when the funding from supplemental appropriations is added in this account expands along with the others:

## DEPARTMENT OF DEFENSE MILITARY BUDGET INCLUDING SUPPLEMENTALS (BILLIONS)

FY	Personnel	Operation and Maintenance	Procurement	Research, Development, Testing & Evaluation
2004	\$116.1	\$189.8	\$83.1	\$64.6
2005	\$121.3	\$179.2	\$96.6	\$68.8
2006	\$138.8	\$243.5	\$119.3	\$73.0
2007	\$130.8	\$228.8	\$126.3	\$73.6
2008	\$136.0	\$236.7	\$134.6	\$77.1

These numbers represent the total DoD budget including GWOT supplemental funding. FY 2006 includes \$54.3 billion, 82 % of the total \$66 billion, in supplemental funding. The FY 2007 figure includes \$73.1 billion in supplemental funding, 78% of the total \$93.4 billion. The FY 2008 budget includes \$123.4 billion, 87% of the total \$141.7 billion spent.

Steven M. Kosiak, "Historical and Projected Funding for Defense: Presentation of the FY 2008 Request in Tables and Charts," Center for Strategic and Budgetary Assessment, June 2007; "FY 2008 Global War on Terror Request," Department of Defense, February 2007, pp. 75-76.

The percentage increases from FY 2007 to FY 2008 in each account are as follows:

The FY 2008 budget includes \$3.86 billion to build F-22s, none of which have been “chewed up” in Iraq. It

**PERCENTAGE INCREASES IN DEFENSE BUDGET BY TITLE 2007-2008**

Personnel	Operation and Maintenance	Procurement	Research, Development, Testing & Evaluation
4%	3.5%	6.6%	4.8%

All percentages have been calculated using the FY 2007 and FY 2008 Military Budget figures including the amounts for GWOT supplemental funding.

Steven M. Kosiak, “Historical and Projected Funding for Defense: Presentation of the FY 2008 Request in Tables and Charts. Table 4: Department of Defense (051) Budget Authority by Title,” Center for Strategic and Budgetary Assessment, June 2007.

It’s striking that the percentage rise in procurement exceeds the rest, followed by funding for weapons R&D. Increases driven to a large extent by “emergency” supplemental funding for two wars have not, according to percentages, been concentrated on paying troops and maintaining them in the field. Substantial amounts of “emergency” money are being used to prepare for the future.

Most advocates for increased military spending, including Defense Secretary Gates and Admiral Mullen, have been justifying their position by citing the need to replace equipment chewed up by the wars in Iraq and Afghanistan. In fact, according to their budgetary plans such expenditures would be added on top of a full menu of major weapons systems with little or no relevance to fighting terrorist groups.

These include, for example, the new SSN-744 Virginia Class Submarine. Contorted efforts to connect this program, costing \$2.499 billion for *one vessel*, to the counterterrorism mission mention covert intelligence collection, insertion and recovery of special operations forces, and launching of tactical missiles. Not explained is why the existing fleet of submarines and surface ships can’t handle these missions, or be retrofitted, at far lower cost, to do so.<sup>5</sup>

Rather than replacing or upgrading the current fleet of fighter jets—the F-15 and F-16 the Pentagon is scrapping them for entirely new models: the F-22 and F-35 respectively. No similarly equipped planes, from any other nation, are either in the sky or on the horizon to challenge them. The new models will cost at least twice as much as the existing planes to produce.<sup>6</sup>

provides \$705 million for new Blackhawk helicopters, many of which have.

The mathematical logic doesn’t add up: plan to spend more money after a war ends than while it is going on. The solution to the conundrum, and the reason for all the talk about pegging defense spending to (a greater share of) GDP, is that those making these arguments all know that the military budgets currently planned for future years will not be enough to pay for the weapons programs the services currently want to buy. While current defense planning documents outline some small declines in spending in future years, reflecting among other things optimistic assumptions about troop drawdowns in Iraq and Afghanistan, the record of these plans corresponding to actual spending is extremely poor. The planners invariably underestimate actual expenditures.

The safe assumption, given recent history, coupled with the military and civilian leadership’s recent statements of intent, is that implementing their plans for modernizing the military will require more money than their budgets publicly reveal. It will also mean increasing overall spending levels that are already higher than at any time since World War II. According to one estimate based on Congressional Budget Office analysis, historical rates of growth in the costs of weapons systems indicate that fulfilling the Defense Department’s current modernization plan could require increases to the procurement budget of \$140 billion more each year (in FY 2008 dollars) from FY 2011-2024.<sup>7</sup>

## CLIMATE SECURITY

In contrast to spending on National Defense, the federal budget doesn't include a category for spending on climate change. In 2005, however, the appropriations bill for Foreign Operations included a requirement that introduced some accountability. Lawmakers required that from then on, within 60 days of the budget request, the president would report on federal spending on climate change, including both domestic and international programs.

The Office of Management and Budget produced the first "Federal Climate Change Expenditures Report to Congress" in 2006. It outlined spending spread

widely across the federal government, in departments and agencies, including Agriculture, Commerce, Defense, (fn: this budget is also included in the 050 Defense budget. The small amount, \$77 million in 2006, or 1/1000 of one percent of the military budget, all of it devoted to technology development, had been cut nearly in half by 2007.), Energy, Health and Human Services, Interior, State, Transportation, Environmental Protection, NASA, the National Science Foundation, the Smithsonian Institution, and the Agency for International Development.

In addition to these direct federal expenditures, OMB has added its estimate of the cost of all "Energy Tax Provisions That May Reduce Greenhouse Gases."

### FEDERAL CLIMATE CHANGE EXPENDITURE BY AGENCY (MILLIONS)

Agency	2006	2007	2008
Department of Agriculture	\$110	\$104	\$290
Department of Commerce	\$253	\$244	\$255
Department of Defense	\$77	\$72	\$33
Department of Energy	\$2,504	\$3,158	\$3,511
Department of H&HS	\$50	\$50	\$49
Department of the Interior	\$27	\$26	\$27
Department of State	\$12	\$41	\$41
Department of Transportation	\$17	\$18	\$17
Department of the Treasury	\$46	\$46	\$56
Environmental Protection Agency (EPA)	\$128	\$121	\$118
National Aeronautics and Space Administration (NASA)	\$1,082	\$1,224	\$1,203
National Science Fund (NSF)	\$215	\$226	\$231
Smithsonian Institute	\$6	\$6	\$6
U.S. Agency for International Development (USAID)	\$190	\$100	\$115
Total - All Agencies Funding	\$4,716	\$5,349	\$5,951

Executive Office of the President: Office of Management and Budget. Federal Climate Change Expenditures Report to Congress. Table 9: Accounting of Federal Climate Change Expenditures by Agency. May 2007.

The total amount budgeted for FY 2008 comes to \$7.37 billion.

A couple of caveats about this figure: the OMB report correctly notes the difficulty of specifying exactly what the federal government spends to address climate change, acknowledging that some expenditures “are not solely for climate change purposes,” although “they can provide climate change benefits.” While there are undoubtedly judgment calls to be made about what programs to include in a list of federal climate change expenditures, it’s clear that some items in the government’s list don’t belong. One wonders, for example, what a \$1.8 million program to eradicate illegal coca in Peru has to do with climate change.

It’s also the case that the 2006 OMB climate change report—the first—provides a greater level of detail about the programs included than the 2007 report. In other words, between the first and second reports, reporting became less transparent, and unjustified expenditures easier to hide.

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## ENDNOTES

1. “Remarks on Global Climate Change,” Weekly Compilation of Presidential Documents, June 11, 2001.
2. Letter to Members of the Senate on the Kyoto Protocol on Climate Change,” March 13, 2001.
3. Peter Gelling and Andrew C. Revkin, “Climate Talks Take on Added Urgency After Report,” *The New York Times*, December 3, 2007.
4. Executive Office of the President: Office of Management and Budget, “Federal Climate Change Expenditures Report to Congress,” May 2007.
5. “A Unified Security Budget for the United States, FY 2008,” *Foreign Policy in Focus*, April 2007, p.23.
6. Steven M. Kosiak, “Analysis of the FY 2008 Defense Budget Request,” Center for Strategic and Budgetary Assessments, June 2007.
7. Steven M. Kosiak, “Analysis of the FY 2008 Defense Budget Request,” CSBA, June 2007; Congress of the United States, Congressional Budget Office. “Long Term Implications of Current Defense Plans: Summary Update for FY 2008,” December 2007, p9.



# The Two Budgets Compared

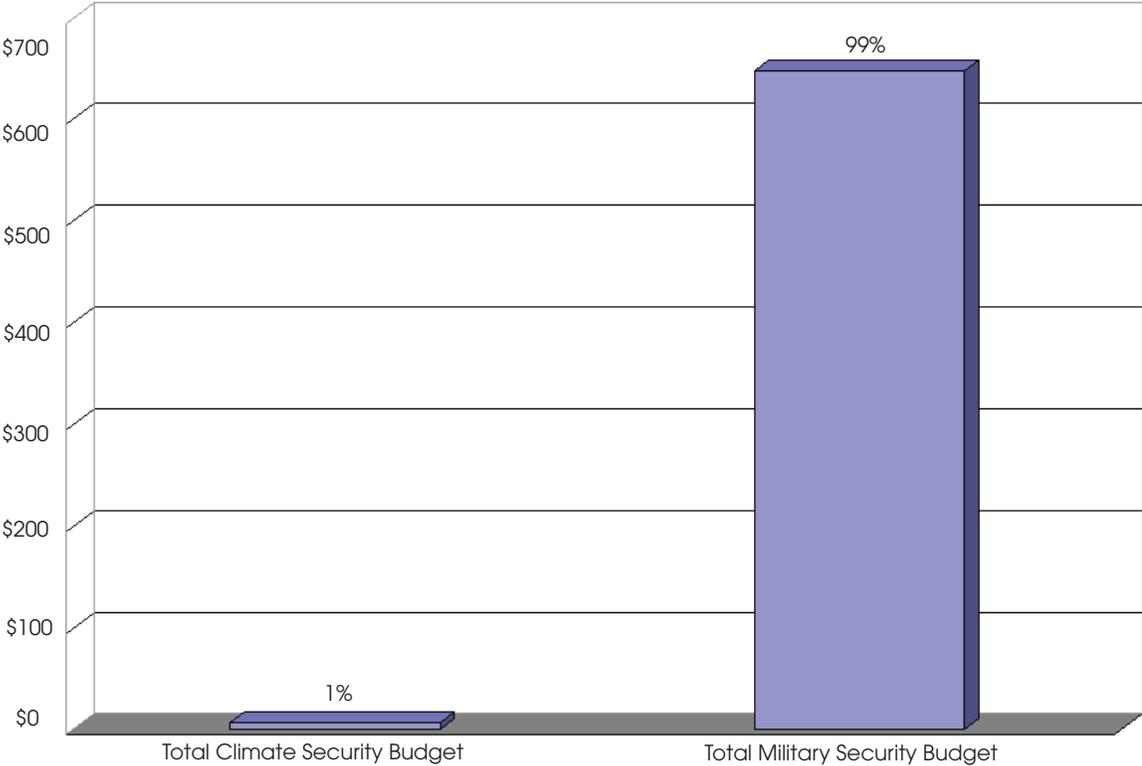
The Defense budget, as noted, for FY 2008 is \$647.51 billion; the climate change budget is \$7.37 billion. The federal budget therefore allocates resources to achieve security by military force, vs. those funding measures to prevent the security problems it has identified as arising from climate change, in a ratio of 88 to 1.

The relative priorities assigned by federal spending to these two challenges looks like this:

In other words, we are spending 1% as much to stabilize climate as we are to secure our country by military force.

This extreme disparity has narrowed slightly during the five years it has been measured. During this time the United States has spent approximately \$37 billion to address the problem of climate change, and about \$3.6 trillion to address security problems by military force. That is, over time the ratio has averaged 97 to 1.

## FY 2008 FEDERAL SPENDING: MILITARY SECURITY VS. CLIMATE SECURITY



Executive Office of the President: Office of Management and Budget, "Federal Climate Change Expenditures Report to Congress," May 2007.  
Steven M. Kosiak, "Historical and Projected Funding for Defense: Presentation of the FY 2008 Request in Tables and Charts," Center for Strategic and Budgetary Assessment, June 2007.

*Military vs. Climate Security*

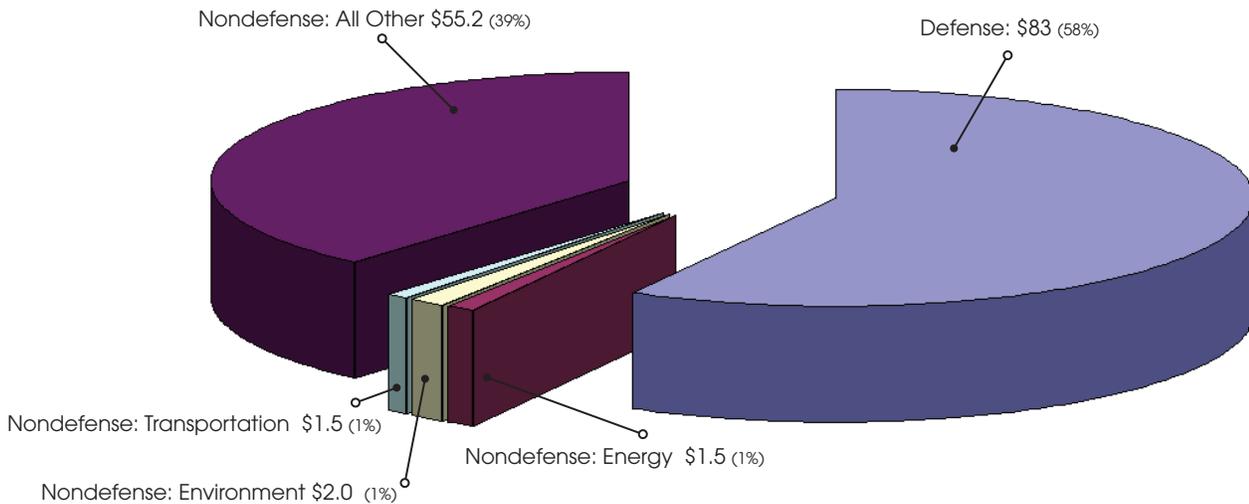
The percentage, however, has remained the same: In FY 2008, as well as in the rest of this century, the federal government has allocated to climate security *one percent* of the amount it has allotted to military security.

The federal government's spending on research and development reflects a similar disparity. Each year the American Association for the Advancement of Science tabulates relative R&D investments in Defense and other areas including space, health, energy, agriculture, general science and commerce. In the FY 2008 fiscal year, military R&D will exceed all other R&D spending put together, by a factor of 58 to 42. Each of the three areas most relevant to the climate challenge—energy, environment and transportation—received only about 1% a piece of overall federal R&D funds.

And of course, not all of the spending in any of these categories is wholly or even primarily devoted to investments that will help avert climate change. Substantial portions of the energy budget funds research and development on fossil fuels. Environmental R&D funds, for example, research on improving water quality. And transportation R&D funds are devoted, among other things, to research into improvements in vehicle safety.

Between FY 2007 and 2008, moreover, the disparity between R&D on military and climate security grew worse. Defense R&D *grew* by nearly 1%, while energy R&D *declined* by more than 8%; environment by 5%, and transportation by 8%.

**FY 2008 DEFENSE AND NONDEFENSE R&D SPENDING (BILLIONS)**



AAAS Report XXXII: Research and Development FY 2008. Intersociety Working Group. Table I-4. May 2007.

# The Climate Change Budget Dissected

The Office of Management and Budget breaks out its budget of expenditures on climate changes into these four categories:

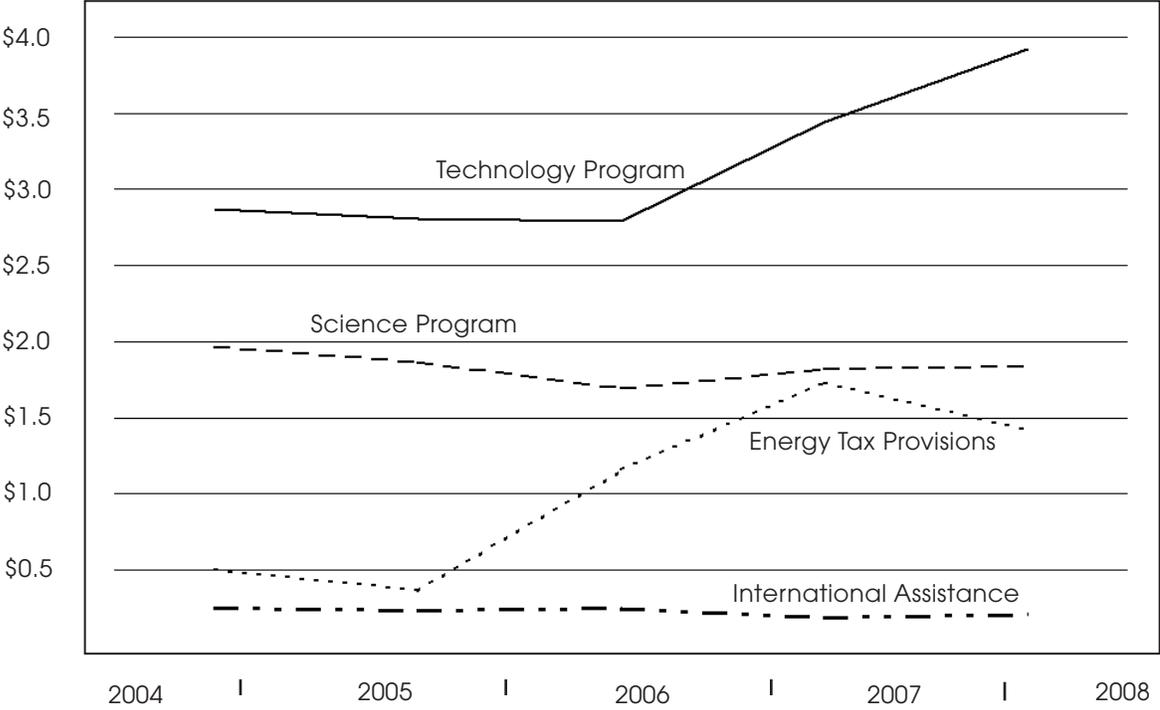
## SUMMARY OF FEDERAL CLIMATE CHANGE EXPENDITURES (BILLIONS)

	2007	2008	\$ Change 07-08
Technology Program	\$3.441	\$3.917	\$.476
Science Program	\$1.822	\$1.836	\$.014
Energy Tax Provisions	\$1.730	\$1.420	-\$.310
International Assistance	\$.188	\$.188	\$.024
Total	\$7.166	\$7.371	\$.205

Executive Office of the President: Office of Management and Budget. Federal Climate Change Expenditures Report to Congress. Table 1: Summary of Federal Climate Change Expenditures. May 2007.

The spending trajectories for these programs looks like this:

## FEDERAL CLIMATE CHANGE EXPENDITURES COMPARED (BILLIONS)



Executive Office of the President: Office of Management and Budget. Federal Climate Change Expenditures Report to Congress. Table 1: Summary of Federal Climate Change Expenditures. May 2007.

## CLIMATE CHANGE TECHNOLOGY PROGRAM

The government's climate change budget continues to devote the largest expenditures, as well as the biggest increases each year, to technology development. Averting climate disaster will clearly require technological advances. For example, we'll need better battery storage for electric vehicles, more efficient, cost-effective solar, wind and geothermal energy generation and transmission, and improvements in many other domains. (Much time has been lost and much energy expended resisting our clean energy transition. If our country had targeted a substantial portion of the post-Cold War "Peace Dividend" to this transition, rather than allowing most of it to be diffused through the private economy, the United States and the world would be in a much better position to solve our climate problem now.)

The first page of the current Climate Change Expenditures budget lays out the Administration's priorities:

The Administration's portfolio of climate change programs and cross-cutting initiatives focuses on reducing the fundamental scientific uncertainties associated with climate change; advancing the development and introduction of energy-efficient, renewable, and other low- or non-emitting technologies; and improving standards for measuring and registering emissions reductions.

Nowhere does the budget mention the most direct route to reducing emissions, namely setting ceilings on them. We need new technologies. But in combination with a policy of opposing such federally mandated ceilings, focusing on the uncertainties of climate science, and opposing changes to tax incentives that will favor renewable sources of energy over fossil fuels, the Bush administration's concentration of the climate change budget on technological development becomes one more diversionary, delaying tactic.

The report opens with a quote, dated January 27, 2007, from President Bush: "America is on the verge of technological breakthroughs that will enable us to live our lives less dependent on oil ... and ... help us to confront the serious challenge of global climate change." If we're on the verge, then action is (and may remain forever) just around the corner.

Meanwhile, as Al Gore said in his Nobel Peace Prize acceptance speech, "today, we dumped another 70 million tons of global-warming pollution into the thin

shell of atmosphere surrounding our planet, as if it were an open sewer. And tomorrow we will dump a slightly larger amount...." Waiting to reverse this trend isn't an option.

The trajectory within the government's agenda for climate change-arresting technologies is also headed in the wrong direction. The main account funding improvements in Energy Efficiency and Renewable Energy—the core solutions to the problem that technology has to offer—actually *lost* 12.4% of its budget between FY 2007 and FY 2008, taking a hit of \$175 million, while nuclear energy gained \$299 million, a 60% increase.

Total spending for technology development within this largest category of the FY 2008 Climate Change budget, across seven federal departments and agencies amounts to \$3.88 billion.<sup>1</sup> The Research, Development, Testing and Evaluation account for the Defense Department is \$77 billion. The ratio between the two: 20 to 1. That is, this year our government budgeted \$20 to develop new weapons systems for every dollar it asked for to develop new technologies to avert climate change.

## CLIMATE CHANGE SCIENCE PROGRAM

The second largest portion of the climate change budget is devoted to studying the problem rather than solving it. In this way the budget corresponds to the dominant strategy of climate change deniers—in government as well as the private sector—for at least the past decade: to focus on what the first sentence of the budget report calls "the fundamental scientific uncertainties associated with climate change." As long as "uncertainties" prevail, action can be postponed.

This position received its decisive rebuke in November. The world's leading climate scientists, making up the United Nations Intergovernmental Panel on Climate Change, delivered their final verdict, following the group's designation the previous month as co-recipient of the 2007 Nobel Prize. In its most forceful language to date, the Panel confirmed the consensus of the global scientific community that substantial climate change is underway, and that further inaction poses unacceptable global risks from rapid rises in sea levels to massive species extinction.<sup>2</sup>

The lion's share of the administration's climate science budget, 59% of the total, goes to NASA. NASA's

overall research budget has been cut back significantly to channel funds into human spaceflight, in accordance with President Bush's desire to send astronauts back to the moon by 2018. And if the quality of research is affected by those directing it, it's doubtful that giving NASA primary responsibility for climate change research is a wise move. As recently as May 31, 2007, NASA Administrator Dr. Michael D. Griffin told *National Public Radio*, "I have no doubt that...a trend of global warming exists. I am not sure that it is fair to say that it is a problem we must wrestle with." Furthermore, he said, "Nowhere in NASA's authorization, which of course governs what we do, is there anything at all telling us that we should take actions to affect climate change in either one way or another."

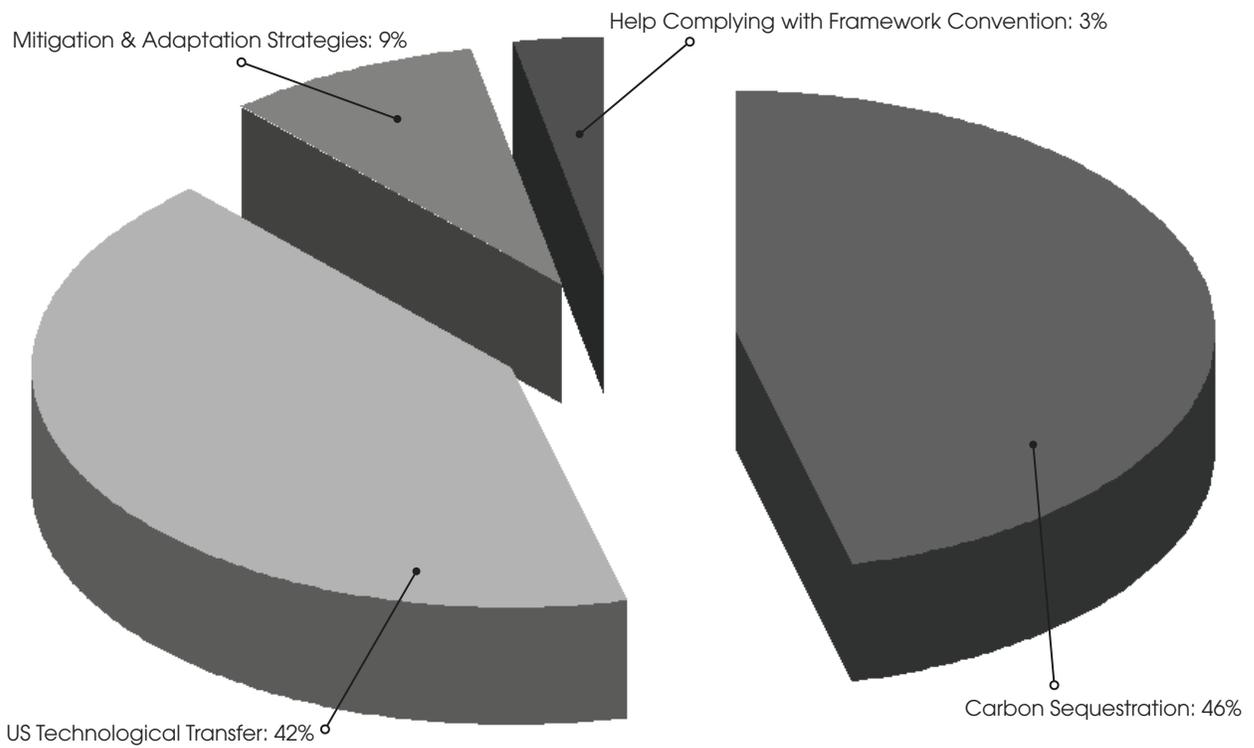
The comparison of spending on research on climate change and on military technology has been outlined above, p. 22.

## INTERNATIONAL ASSISTANCE

Climate change knows no national boundaries. It's an international problem that will not be solved except by means of international cooperation, of a scale and generosity the world's nations have not previously shown themselves capable.

It's also true that the developed world has largely created the problem by becoming industrialized. It cannot now simply demand that the engines of its development that have flooded the atmosphere with greenhouse gases now be turned off for countries yet to develop. Justice requires that industrialized countries assume the lion's share of the burden of emissions reductions. It also requires that the developed world transfer financial resources to developing countries to assist them in making their transition to clean, renewable energy sources.

### INTERNATIONAL ASSISTANCE ON CLIMATE CHANGE 2006



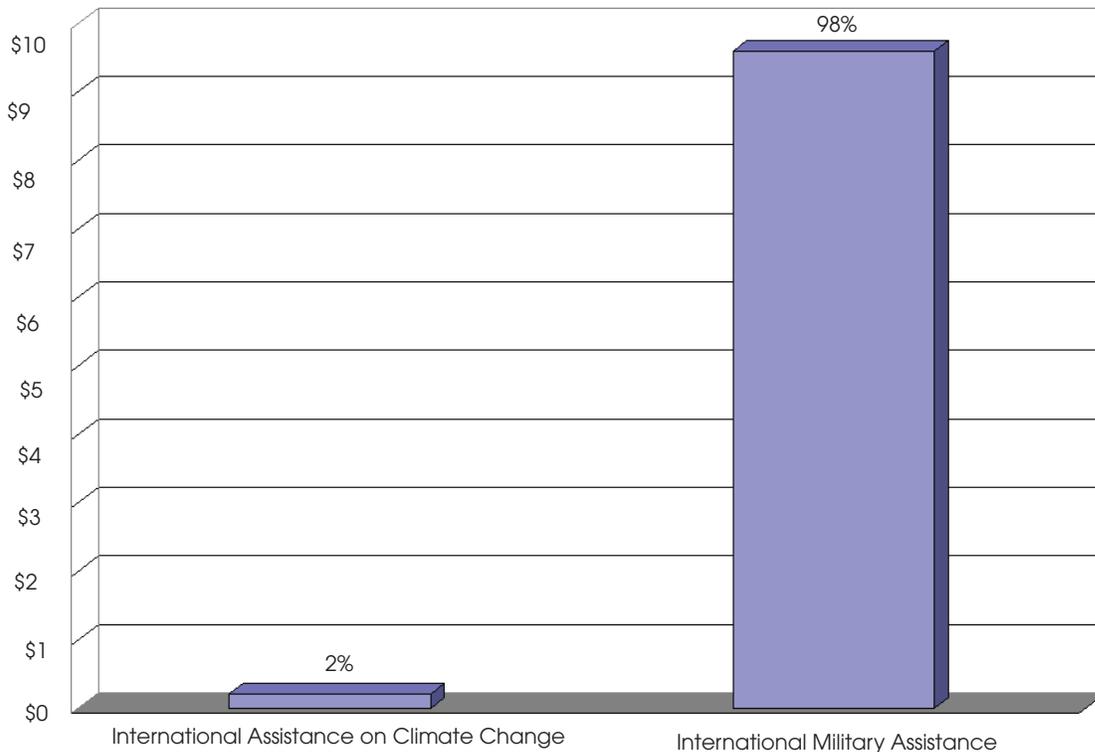
The official U.S. Climate Change budget does include expenditures for international assistance. The problems with these expenditures have to do both with how much money there is, and what it is spent on:

- *The amounts:* For FY 2008 \$212 million is budgeted to help fund an energy transition for the rest of the world. The inadequacy of this token amount presumably needs no explanation. It's also a smaller amount than is spent on any other category: 5% of the \$3.9 billion for technology development, 12% of what will be spent on more study of the problem.
- *The targets:* The first climate change budget in 2006 was more enlightening than the second in 2007 about how the international assistance money was to be spent. It identified four major program areas, listed here in order of fiscal priority:

- 1) Promoting carbon capture and sequestration: 47%
- 2) Promoting the transfer and deployment of U.S. clean energy technologies: 43%
- 3) Assessing recipient countries' vulnerability to climate change impacts and developing strategies for mitigating these impacts and adapting to them: 8.8%
- 4) Helping countries meet their responsibilities under the Framework Convention on Climate Change: 0.3%

In other words, nearly half of this budget was devoted to an (unproven) strategy for mitigating the effects of existing coal-fired power generation infrastructure, rather than assisting in the transition to clean renewable fuels. Most of the rest is devoted to promoting U.S. technologies that may or may not be the most suitable

### FY 2008 INTERNATIONAL ASSISTANCE COMPARISON



Executive Office of the President: Office of Management and Budget. Federal Climate Change Expenditures Report to Congress. Table 6: International Climate Change Assistance. May 2007; Steven M. Kosiak, "Historical and Projected Funding for Defense: Presentation of the FY 2008 Request in Tables and Charts," Center for Strategic and Budgetary Assessment, June 2007.

for the recipients' needs. Less than 10% is allocated to adapting to climate change effects—droughts, floods, crop loss, disease, and the rest. And an amount barely worth mentioning, less than 1%, is devoted to assisting donor countries in participating in the broad systemic, global changes that will be needed to avert climate disaster.

And finally, we can compare the amount devoted to international assistance on climate change, \$212 million, to what is budgeted for international military: \$9.5 billion. We will devote fifty times as much, in other words, to arming the world as to helping it prepare for and avoid climate catastrophe. (See p.13, FY 2008 International Assistance Comparison.)

The crisis in Pakistan highlights the potential costs, as opposed to benefits, of U.S. military assistance. According to recent published reports, Pakistan has used substantial portions of the \$11 billion in U.S. military aid since 9-11, not for counterterrorism, but to buy weapons systems designed for a confrontation with its nuclear rival, India.<sup>3</sup>

## **ENERGY TAX PROVISIONS THAT MAY REDUCE GREENHOUSE GASES**

Averting climate catastrophe will require putting a price on carbon, to overcome the inertia of a fossil fuel-powered economy and generate the massive investments that will be required to convert that economy to a clean energy future. The Bush administration's recent actions, including its negotiating posture in Bali and with Congress over the Energy Independence and Security Act, finally signed into law in December, make clear that it has no intention of doing so. Acquiescing to the first modest rise in the fuel economy standard in 30 years, it nevertheless insisted on leaving in place the subsidy structure that vastly favors fossil fuels over renewable energy sources. The final bill preserves \$13.5 billion in tax subsidies for oil and gas companies. According to Earth Track, a Boston consulting firm that analyzes natural-resource subsidies, in 2006 the oil and gas industry received 66.2% of these subsidies; the nuclear industry was allotted 12.4% and ethanol got 7.6% of them.

All other renewable energy sources—solar, wind, geothermal, and the rest—got 7.5% of the overall subsidy pie. And giving American consumers and businesses incentives to conserve energy? A hair over 2%.<sup>4</sup> While preserving existing tax breaks for fossil fuels, the bill rejected a package of tax incentives for investment

in clean energy, as for example, a tax break to consumers who buy plug-in hybrid cars, a production tax credit for wind power, and a tax credit to encourage investment in solar power equipment.

The modest tax incentives favoring investments that reduce greenhouse emissions rather than creating them are almost all a legacy of the Clinton administration. They include, for example, modest credits to contractors for constructing energy-efficient homes, and to homeowners for improving the efficiency of the homes they already own and the appliances they buy, and credits to businesses for installing fuel cell power plants. Less is devoted in total to this purpose, however, than to any other in the federal government's climate change portfolio, save assistance to other countries. And the administration proposes to *cut* these funds in 2008, by \$310 million, an 18% reduction.

The cuts may in fact be much worse, since the tax incentives rejected in the new Energy Independence Act are mostly merely continuations of existing programs.<sup>5</sup>

Finding in these facts evidence of the sense of urgency the administration now professes to feel for curbing greenhouse emissions would be quite a challenge.

## **CLIMATE CHANGE BUDGETARY BIG PICTURE**

It would also be a challenge to find this sense of urgency in the overall priorities in the budget. In its current budget, the biggest boost was given to what was already its highest priority: developing technological breakthroughs “just around the corner” that defer action as much as they promote it. Second in priority was more money to study the problem rather than solve it. The lowest priority continued to be assigned to working internationally to solve an international problem. And the single program that actually lost funding was the modest collection of energy tax incentives, amounting to \$1.4 billion.

The most direct way the government has of reducing emissions now is by setting caps on emissions, actions that involve little or no government spending. Within the domain of federal expenditures, the most direct means of reducing greenhouse emissions is by changing the incentive structure for private investment, through tax changes.

In sum: the current U.S. climate change budget gives least priority to the two programs that are focused

on tackling the problem now. It actually cuts funding for the principal budgetary, as opposed to regulatory, tool that is most likely to cut U.S. greenhouse emissions in the near term.

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## ENDNOTES

1. The \$39 million spent by the Defense Department on climate change technology development has been subtracted.
2. Elisabeth Rosenthal, "U.N. Report Describes Risks of Inaction on Climate Change," *The New York Times*, November 17, 2007, p.1.
3. David Rohde, Carlotta Call, Eric Schmitt, "U.S. Officials See Waste in Billions Sent to Pakistan," *The New York Times*, December 12, 2007. Available at: <http://www.nytimes.com/2007/12/24/world/asia/24military.html?ei=5088&en=19a8b44eb685fafa&ex=136152400&partner=rssnyt&emc=rss&pagewanted=all>
4. [http://www.earthtrack.net/earthtrack/liberary/Subsidy Reform Options.pdf](http://www.earthtrack.net/earthtrack/liberary/Subsidy%20Reform%20Options.pdf)
5. Kelpie Wilson, "Energy Bill to Sacrifice Renewables," *Truthout*, November 12, 2007.

# Conclusion

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**W**hen he accepted his Nobel Peace Prize, Al Gore called on all nations to act on the climate problem “with a sense of urgency and shared resolve that has previously been seen only when nations have mobilized for war.”

This report provides one benchmark of comparative U.S. resolve in these two domains: our current allocation of federal tax dollars. It establishes a baseline for one important dimension of the job of bringing our climate change mobilization up to the level of commitment our government has made in recent years to military mobilization. It shows how far we need to go to close the gap.

In a joint appearance on The Charlie Rose Show in June, three former National Security Advisors, Henry Kissinger, Zbigniew Brzezinski and Brent Scowcroft, all talked about the need for less arrogance and more cooperation in U.S. foreign policy. Scowcroft, former National Security Advisor to President George H.W. Bush, observed that in this “very different world the traditional measures of strength don’t really apply so much ... It’s a world where most of the big problems spill overall national boundaries ...”<sup>1</sup> Polls that show worldwide opinion of the United States at its lowest point since such measures began to be taken highlight two primary causes: first, the central application of our military-led foreign policy in Iraq, and second, our rejection of the Kyoto Protocol, the existing global treaty on climate change.

The two dots of military and climate security are beginning to be connected by a variety of actors in numerous ways. This report contributes the metric of relative federal spending to this task, showing that over the past five years the U.S. has devoted 1% of its military security budget to spending to stabilize climate. And it shows that even this inadequate amount is badly spent on what ought to be low priorities, while major climate priorities get short shrift.

It’s the starting point from which the real task of altering the extreme disparity between their budgets can begin.

## ENDNOTES

1. David Ignatius, “Wise Advice: Listen, and Engage,” *The Washington Post*, June 24, 2007, p.B7.

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