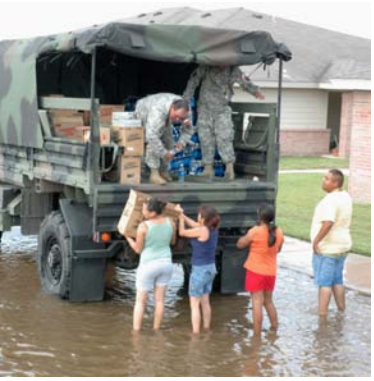

The Energy and National Security Benefits of Climate Action

Global warming is one of the most urgent issues of our day. Fortunately, quick and decisive action on energy and climate policies will bring the United States many important benefits and opportunities—including greater energy and national security.

The national security threats associated with energy and climate change are threefold. Our dependence on oil is a major vulnerability: in 2006, President George W. Bush declared that, "America is addicted to oil," and said we need to break this addiction to keep America competitive.[1] Further, security assessments have shown that we need to address significant safety and security risks to our energy system, including threats to nuclear power plants and vital energy infrastructure. Lastly, climate change itself poses risks: a 2007 study conducted in collaboration with some of the nation's most respected retired admirals and generals concluded that, "*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*," and will create tensions even in currently stable parts of the world.[2]

Congress must take these issues seriously and build on the momentum created by the recent passage of the American Clean Energy and Security Act (ACES)[3] in the U.S. House of Representatives and the introduction of the Clean Energy Jobs and American Power Act (CEJAPA)[4] in the U.S. Senate. Comprehensive climate and energy legislation like these bills could help us avoid some of the worst consequences of climate change, increase our energy security, and reduce the future burden placed on American troops and taxpayers.

Reduced Oil Dependence

Lowering heat-trapping emissions from the transportation sector—which currently accounts for about 30 percent of U.S. emissions[5]—is the most important step we can take to reduce our nation's reliance on oil (including the portion that comes from unstable regimes around the world). Investing in cleaner vehicles, low-carbon fuels, and a more efficient transportation system, plus efficiency improvements that reduce oil use in industry and home heating, could cut U.S. petroleum consumption 6 million barrels per day by 2030 compared with 2005—as much as we now import from the Organization of the Petroleum Exporting Countries (OPEC).[6]

An analysis by the U.S. Energy Information Administration shows that ACES would lower overall use of oil and other petroleum products about 1.2 million barrels per day by 2030. That would save the United States approximately $250 billion* in oil imports during that time,[7] and help shield the U.S. economy from the effects of sudden changes in oil supply and prices. The five significant spikes in oil prices of the past 40 years, for example, were all followed by an economic recession.[8]

Given that the United States currently controls only 1.6 percent of the world's proven oil reserves,[9] and that U.S. domestic crude oil production has declined 50 percent since 1970,[10] we simply do not have enough new oil recoverable from domestic sources at a reasonable cost to substantially displace imports or influence the world price for oil. As such, our continued dependence on oil will keep the United States reliant on foreign sources of oil, which in turn will keep us embroiled in the politics of the Middle East and other volatile regions.

The alternative is clear. More efficient transportation choices, a diversified mix of clean,

* Net present value in 2007 dollars, based on a discount rate of 7 percent.

PHOTOS: (top to bottom) USAID, NRC/PPT Susquehanna, U.S. Army, iStockphoto.com, NREL.

renewable, homegrown energy, and smart growth policies that provide more transportation options can finally give U.S. consumers protection from oil market volatility, while lessening the burden we place on our military to ensure a stable oil supply.

Greater Energy Security

Our energy and power infrastructure is currently exposed to a number of safety and security risks. Large coal and nuclear power plants connected to long-distance transmission lines, for example, are vulnerable to disruption from sabotage or severe weather. Nuclear reactor containment buildings were not built to withstand the impact of a commercial jet, and a 9/11-style attack (or serious accident) could kill tens of thousands and contaminate an area the size of Pennsylvania. Similarly, a rupture in the hold of a tanker containing liquefied natural gas could result in an explosion that sends flames over several miles.[11] Climate change-related effects such as severe hurricanes and the prolonged thawing of permafrost also threaten our oil and natural gas infrastructure off our coasts and in Alaska, respectively.[12]

We can significantly reduce these vulnerabilities and risks by using energy more efficiently and making the transition to a more distributed energy system that uses locally available renewable energy resources and more modular technologies such as solar water heaters, photovoltaic panels, wind turbines, and biomass-fueled electricity generators. This shift would also reduce both our dependence on imports of liquefied natural gas, which frequently come from the same unstable parts of the world that produce much of our oil, and our reliance on electricity from coal-fired power plants, which currently account for about one-third of U.S. carbon dioxide emissions.

National and Global Security

Climate change is already under way and we are feeling its effects in the form of severe weather, melting glaciers and ice caps, and rising sea levels. Left unchecked, our growing emissions will lead to further increases in sea level rise, droughts, floods, wildfires, water shortages, food shortages, the severity of hurricanes, and the unpredictability of monsoon cycles—all of which put human health and lives at risk.[13]

> "It's not hard to make the connection between climate change and instability, or climate change and terrorism." –General Anthony C. Zinni, U.S. Marine Corps (retired)

These threats, especially those affecting water and food supplies, compounded by a loss of habitable land due to rising sea levels, have the very real potential to trigger mass population migrations and violent conflicts. Water shortages are already a cause of violence and instability in the Middle East, Africa, and Asia. Global warming may also lead to weakened and failed states, creating yet more poverty, forced migrations, and resource scarcity—conditions that foster extremism and terrorism.[14]

The burden of these adverse climate impacts will be disproportionately borne by developing nations and by poor and unprepared communities in all nations. As a result, the U.S. military—already a major contributor to humanitarian missions worldwide and stretched thin by existing deployments—will likely be called upon to undertake additional humanitarian missions.[15]

Climate change also threatens U.S. weapons systems and platforms, bases, and military operations. For example, drier, hotter conditions could lead to sandstorms affecting operations in the Middle East, Africa, and the Persian Gulf. Rising sea levels and more severe storms could affect strategic facilities such as Diego Garcia (a major hub for Middle East and Afghanistan operations but located only a few feet above sea level in the Indian Ocean) or the Naval Air Station at Pensacola, FL (which was shut down for more than a year by Hurricane Ivan in 2004).[16]

While we may be able to adapt to some of these impacts, the cost will likely be significant. Instead, by taking action to sharply curtail our emissions, we can lessen the severity of the impacts and enhance both national and global security.

A Strong Course of Action

Clearly, a strong, effective response to global warming would serve our national interests. We need legislation that enacts a comprehensive suite of climate, energy, and transportation policies to help curb our emissions and increase our energy efficiency and use of renewable energy. Such a law would not only lower the energy bills of American consumers but also reduce our reliance on oil, enhance our security, and ease the stress on our troops. We also need to fund adaptation measures to help vulnerable populations cope with the unavoidable consequences of climate change.

As it has done many times in the past, the United States should assume a role of global leadership in confronting the climate challenge. A strong U.S. commitment to reducing our own emissions and helping reduce emissions worldwide will help convince other nations to play their part, ensuring the collaborative international effort necessary to curb global warming. There is no time to waste—Congress should enact such legislation as soon as possible.

This fact sheet is available online at www.ucsusa.org/smartclimatechoices

The Union of Concerned Scientists is the leading science-based nonprofit working for a healthy environment and a safer world.

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ENDNOTES

1 Bush, G.W. 2006. Address before a joint session of the Congress on the state of the union. January 31. Online at *http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2006_presidential_documents&docid=pd06fe06_txt-11.pdf.*

2 Sullivan, G.R., F. Bowman, L.P. Farrell, Jr., P.G. Kern, T.J. Lopez, D.L. Pilling, J.W. Prueher, R.H. Truly, C.F. Wald, A.C. Zinni, S.W. Goodman, D.M. Catarious, Jr., R. Filadelfo, H. Gaffney, S. Maybee, and T. Morehouse. 2007. *National security and the threat of climate change*. Alexandria, VA: The CNA Corporation. Online at *www.cna.org/nationalsecurity/climate/report/SecurityandClimate_Final.pdf.*

3 The American Clean Energy and Security Act (ACES). 2009. H.R. 2454, 111th Congress, first session. Online at *http://www.govtrack.us/congress/bill.xpd?bill=h111-2454.*

4 The Clean Energy Jobs and American Power Act (CEJAPA). 2009. S. 1733, 111th Congress, first session. Online at *http://kerry.senate.gov/cleanenergyjobsandamericanpower/pdf/bill.pdf.*

5 Cleetus, R., S. Clemmer, and D. Friedman. 2009. *Climate 2030: A national blueprint for a clean energy economy.* Cambridge, MA: Union of Concerned Scientists. Online at *www.ucsusa.org/assets/documents/global_warming/climate-2030-report.pdf.*

6 Ibid.

7 Energy Information Administration. 2009. *Energy market and economic impacts of H.R. 2454, the American Clean Energy and Security Act of 2009*. Washington, DC: U.S. Department of Energy. Online at *http://www.eia.doe.gov/oiaf/servicerpt/hr2454/pdf/sroiaf(2009)05.pdf.*

8 Center for Transportation Analysis. 2008. *Transportation energy data book*, edition 27. Oak Ridge, TN: Oak Ridge National Laboratory. Online at *http://cta.ornl.gov/data/index.shtml,* accessed on October 16, 2009.

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Diego Garcia, an Indian Ocean atoll that averages only four feet above sea level, serves as a major logistics hub for U.S. military operations in the Middle East and Afghanistan. The base could be lost to sea level rise in the event of unchecked climate change.

9 Energy Information Administration. 2009. *World proved reserves of oil and natural gas, most recent estimates*. Online at *http://www.eia.doe.gov/emeu/international/reserves.html,* accessed on October 16, 2009.

10 Energy Information Administration. 2008. *Annual energy review 2008.* Table 5.1. Washington, DC: U.S. Department of Energy. Online at *http://www.eia.doe.gov/aer/pdf/pages/sec5_5.pdf.*

11. Union of Concerned Scientists. 2004. *Energy and security: Solutions to protect America's power supply and reduce oil dependence*. Cambridge, MA. Online at *http://www.ucsusa.org/clean_energy/solutions/big_picture_solutions/energy-and-security.html,* accessed on October 16, 2009.

12 Union of Concerned Scientists. 2009. *Climate change in the United States: The prohibitive costs of inaction.* Cambridge, MA. Online at *http://www.ucsusa.org/assets/documents/global_warming/climate-costs-of-inaction.pdf.*

13 Ibid.

14 Sullivan, G.R., F. Bowman, L.P. Farrell, Jr., P.G. Kern, T.J. Lopez, D.L. Pilling, J.W. Prueher, R.H. Truly, C.F. Wald, A.C. Zinni, S.W. Goodman, D.M. Catarious, Jr., R. Filadelfo, H. Gaffney, S. Maybee, and T. Morehouse. 2007. *National security and the threat of climate change*. Alexandria, VA: The CNA Corporation. Online at *www.cna.org/nationalsecurity/climate/report/SecurityandClimate_Final.pdf.*

15 Ibid.

16 Ibid.