Our Energy (In)Security

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Energy issues are at the heart of human security concerns. We have always needed food energy and heat energy to survive and thrive. However, since the industrial revolution and our discoveries of the great utility of fossil fuels (coal, oil, and natural gas), security concerns related to human energy demand have expanded dramatically with our growing demand for fossil fuels.

Let's be clear: burning fossil fuels drives emissions of many damaging and dangerous pollutants, but it also improves the human condition in many ways. We heat and cool our homes, schools, and workplaces; produce enormous quantities of food and freeze and refrigerate it (saving millions of lives); shed light on darkness (improving our productivity, safety, and quality of life); power our cell phones, computers, and websites; transport ourselves and our goods around town and around the globe; and entertain ourselves with technologies such as iPods, television, and the Internet. To put it bluntly: we live in, and benefit greatly from, a fossil fuel economy.

Despite the fact that environmental damage and human and labor rights abuses are commonly associated with the oil and coal industries,[1] most of us do not intend to give up heat, refrigeration, light, travel, and entertainment. Still, our growing demand for energy, need to secure access to energy resources, and the accelerating environmental implications of humans' increasing use of fossil fuels threaten our security from global to local levels.

So where does this leave us? Let us begin by focusing our attention on the contemporary links between energy and security at four levels of political scale: global, national, regional, and local.

Global

Three challenges loom for citizens and policymakers around the globe: First, growing scarcities of important fossil fuels in the face of growing global demand; second higher and often volatile prices for oil and natural gas; finally, the accelerating threat of global climate change (global warming) induced by human activity.

Just how much oil is left to extract and exploit is the subject of much debate.[2] What is clear is that the world's major oil producers are struggling to keep pace with growing global demand for oil and gas. Furthermore, most new sources—i.e., the deep sea, buried in sands and shale, and in or near polar regions—will be more expensive to extract and use than many current sources.

Recently, oil prices have approached historic highs, making it harder for poor individuals and countries to pay for their energy needs. "Boom and bust" cycles in oil prices, sometimes caused by changes in global oil supply, and sometimes caused by changes in perception, make many investors hesitant to invest in additional extraction or refining capacities for fear of losing money when, or if, the price drops in the future.

One thing that is clear is that coal remains plentiful, particularly in North America and China. When mined and burned in traditional ways, coal is a cheap energy source that induces a host of problems for human health and environmental quality. The pollutants from coal-fired power plants, such as mercury and carbon dioxide (CO_2), are transported around the globe along with the adverse effects of these substances.[3] Burning any of the fossil fuels releases CO_2 and contributes to global climate change. Coal, however, is much more carbon intensive than the others. This fact, and the many other forms of pollution associated with burning coal, limit coal's attractiveness as an energy source.

Regarding global climate change, scientists have been trying to understand the dynamics of the global climate system for generations. Our contemporary understanding of these systems and the growing conviction about global warming within domestic and international scientific organizations and communities, builds on centuries of scientific study of oceans, weather, ice ages, and other concerns.[4]

Still, insecurity and uncertainties abound in our debates about global climate change. Some of it stems from the host of expected adverse impacts of climate change, including increased storm intensity and the incidence of drought and famine, sea level rise, species extinction, and disease migration. Other threats include the economic, health, and social costs of climate chang-

es. Still more insecurity is generated by fear that some policies designed to combat climate change will "wreck our economy" or "cost jobs."

Others fear that the usual processes associated with international politics and international law are too slow and their policy outcomes too weak to deal with environmental and humanitarian crises posed by climate change.[5] The rather weak commitments made by governments in the 1992 United National Framework on Climate Change, and the 1997 Kyoto Protocol agreement, not to mention the powerful opponents to these agreements, have done little to allay fears that our political leaders and institutions may be unable to respond to climate change in time to avert disaster.[6]

National

National policymakers face the global challenges outlined above. They do so in a context of growing national dependence on foreign sources of energy and growing domestic and international pressure on the U.S. take steps to address climate change.

Since World War II, American military, security, and foreign policies have become ever more concerned with securing U.S. access to oil.[7] It is no secret that international oil politics is bloody business. Nor is it a mystery why permanent U.S. military bases are being built around the Persian Gulf and across Central Asia. The oil must flow.

U.S. national economic and military security are put at increasing risk by the growing dependence on oil supplies from increasingly-concentrated Persian Gulf states, such as Saudi Arabia, Iraq, Iran, Kuwait, and the United Arab Emirates, as well as a small number of other countries, including Russia, Venezuela, China, Libya and Nigeria. Supplier nations include many with scant democracy or human rights. It also includes those prone to political instability or corruption due, in part, to meddling by oil-thirsty nations like ours.

Energy and climate change policy at the Federal level has not been encouraging. National policy has failed to offer plans or significant incentives to reduce U.S. fossil fuel demand and dependence and to address increasing greenhouse gas (GHG) emissions. Drilling in national parks, national wildlife refuges, and untapped areas of our coastline would have only a very modest effect on supplies. There is simply not enough oil under U.S. territory to alter the country's energy dependence. Only reductions in energy demand, and increases in the supply of, non-fossil fuel energy can do that.

On climate change policy, President Bush and most of the Congress remain openly hostile to any regulations aimed at reducing emissions of CO_2 and other greenhouse gases. Many of the nation's friends and allies grow angrier that the most powerful and wealthy country on earth complains that the Kyoto Protocol is unfair to America and refuses to take any national action to reduce CO_2 emissions.

Of course, the U.S. is far from alone in its "energy insecurity." Many citizens of oil-rich countries live in poverty, and the fear and degradation it engenders, even as oil prices hit new highs.[8] Many oil-exporting governments use repression and violence to rule their populations, quell domestic opposition, and keep the oil flowing. In poorer countries without fossil fuels to exploit, volatile or rising oil prices threaten the economic and physical security of millions.

Regional

While maintaining an adequate supply of energy remains a concern in New England and the greater Northeast, the region boasts some of North America's most ambitious and innovative climate change policies. Many of the region's leaders (governors, state legislatures, mayors and other state and local public officials) from both major political parties are attempting to implement climate change action plans, energy efficiency programs, and reduced CO_2 emissions.[9] These programs have rather modest goals, but they at least attempt to begin to address the interconnected energy and climate change challenges we face.

Local

At the local level, national and global security concerns are connected to the ways we live, the things we buy, and the policy choices we make. Energy security and climate change are not distant, grandiose problems. They are immediate and real, impacting the prices we pay at the pump, in our utility bills, and in university fees. These issues are changing the environments in which we live.

We can respond to energy and climate change insecurities at the local level, as well. For example, UNH is a recognized leader in energy efficiency and cleaner transportation technologies. It is also well known for its campus action to reduce CO_2 emissions and encourage greater sustainability. Other universities seek to emulate UNH's successes. Also, many cities and towns in the Northeast have signed up for the International Counsel for Local Environmental Initiatives' (ICLEI) "Cities for Climate Protection" program.[10] Some are exploring, or already investing in, wind power and other renewable energy technologies.

At each level (global, national, regional and local), citizens and public officials face a host of choices about the kind of world, country, and communities in which we want to live. We set individual and societal priorities. These many choices, while not easy, illustrate the central importance of energy concerns to our personal sense of security and to the security our local, regional, national, and global communities.

We cannot be "safe" from these insecurities in Durham or Boston or anywhere if energy and climate change challenges are ignored at global, national, or regional levels. However, these issues cannot be addressed at higher levels of political authority if we do not become informed and act locally and individually.

At the end of the day, we all experience insecurity. We feel it as we read the news, or watch the price tick up as we pump our gas. We feel it when we think of our friends and family members in the military or worry about getting or keeping a job or how to pay the bills. We feel it when we think about the many ramifications of accelerating climate change. Feeling threatened or insecure can be induced by what we read, view, or hear. Yet, how we respond to insecurity is up to each of us. We control the choices we make as individuals. We also control the demands we make of each other and our business leaders and public officials.

Let's get busy.

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2 See the contributions by John Carroll and PT Vasudevan in this Dialogue.

3 See, for example, Keith Bradsher and David Barboza, "Pollution from Chinese Coal Casts Long Shadow around the Globe," *New York Times*, June 11, 2006.

4 For an engaging history of climate change science, Spencer R. Weart. 2003. *The Discovery of Global Warming*. Cambridge: Harvard University Press. On the growing consensus among scientists regarding human induced climate change, see the contribution by Cameron Wake in this Dialogue; Houghton, J. T. et al. Eds. Climate Change 2001: The Scientific Basis. Cambridge: Cambridge University Press, 2001; and T. R. Karl, K. E. Trenberth, Science 302, 1719-1723 (2003). See also Weart's website, which is frequently updated: http://www.aip.org/history/climate.

5 Stacy D. VanDeveer, "Green Fatigue" *Wilson Quarterly*, (27)(4)(2003): 55-59.

6 For information about these international agreements, see http://unfccc.int.

7 For an impressive history of oil's role in US foreign policy, see Michael T. Klare, *Blood and Oil: The Dangers and Consequences of America's Growing Dependency on Imported Petroleum*, New York: Metropolitan Books, 2004.

8 See, for example, the *Boston Globe* series on 'Oil in Africa" at, http://www.boston.com/news/specials/oil_in_africa/

9 See Henrik Selin and Stacy D. VanDeveer. "Canadian-U.S. Environmental Cooperation: Climate Change Networks and Regional Action" *The American Review of Canadian Studies* 35(2005): 353-378; Henrik Selin and Stacy D. VanDeveer. "Canadian-U.S. Cooperation: Regional Climate Change Action in the Northeast" in Philippe Le Prestre and Peter Stoett (Eds.) *Continental Ecopolitics*. Aldershot: Ashgate, 2006. See also the information on the following websites: the Regional Greenhouse Gas Initiative, http://www.rggi.org; Conference of New England Governors and Eastern Canadian Premiers environmental programs, http://www.neg-ecp-environment.org; New England Climate Coalition, http://www.newenglandclimate.org. Finally, on the activities of US states beyond the Northeast, see Barry Rabe, *Statehouse and Greenhouse: The Emerging Politics of American Climate Change Policy*. Washington, DC: Brookings Institution Press, 2004.

10 For details about the program and a list of participants, see the ICLEI website: http://www.iclei.org.