

# The NATIONAL STRATEGY FORUM REVIEW

An Online National Security Journal Published by the National Strategy Forum

## **Chapter 6: Energy Security: Protecting our Environment, our Economy, and our Independence** **By Endy Zemenides**

*Endy Zemenides is a member of the Editorial Board of the National Strategy Forum. He is a partner at Acosta, Kruse, and Zemenides.*

Since the beginning of the oil age 150 years ago, the United States has relied almost exclusively on fossil fuels – most notably coal and oil. Over the past century and a half everyone in the United States has benefited from a standard of life fueled by an era of cheap and abundant oil and coal. There are several items that we take for granted – our ability to constantly drive; our consistent electricity; air conditioning; big box retailers and their low transport costs (low costs from which all international trade benefits); and affordable air travel – that certainly would be far more costly and less central to our lives without cheap oil and/or coal.

Energy is, however, no longer purely a domestic issue. It has gone from being primarily the way we fuel our economy and our lifestyle to a major factor influencing how countries conduct their foreign, economic, environmental and national security policies. Energy security may indeed be the key issue of our time, because our present course could potentially (a) be economically unsustainable; (b) make us dependent on global adversaries; and (c) expose us to WMD-like effects of climate change.

### *The Expense of Energy Insecurity*

In his 2004 book *Blood and Oil*, Michael Klare argued that our reliance on foreign oil was an economic burden, at \$30 a barrel. Going into the last month of 2009, the price of crude oil has topped \$70 a barrel.

That price may even seem like a bargain a few years from now, as instability in the Middle East and exploding demand in India and China will wreak havoc on the marketplace. With growth in these and other emerging markets, the world's daily demand increased by 9.4 million barrels between 2000 and 2007 (with 85% going to the developing world). Estimates by the International Energy Agency have the Chinese and Indian shares of the global rise in oil demand

through 2030 at 40% and 20%, respectively. To offset Chinese demand, the world's wealthiest countries would have to reduce their demand by 20%.

The problem is not merely with demand; there is also a problem with supply. While debate still rages over when we may reach the peak in world oil production, even those that conclude that oil resources on Earth are sufficient to keep up with demand for decades to come acknowledge that much of that supply will come from ultra deep waters, Canadian oil sands, and the liquids that are produced with natural gas – all unconventional sources of oil and much more expensive to extract and refine.

To make matters worse, the vast majority of the oil consumed by Americans comes from abroad. Thus, our reliance on oil adds to our current account deficits. To top it all off, petrodollars come flowing back into our financial and real estate markets, expanding dangerously inflated bubbles further.

### *The Shackles on U.S. Foreign Policy*

Russia, Iran, Saudi Arabia, and Venezuela are all examples of Thomas Friedman's "The First Law of Petropolitics" which posits that *the pace of freedom in oil producing countries and the price of oil move inversely*. One of the great challenges for American foreign policy is how to treat these and other oil producing nations.

American commanders in Iraq and Afghanistan have raised the alarm about the military's reliance on oil, since fuel convoys are especially vulnerable to attack. And there is the argument – closely analyzed since 9/11 – that the money we spend on oil goes in part to fund extremism in the Middle East.

A comprehensive energy security strategy must be able to answer the following questions: How will Iran and Venezuela behave if oil prices remain high? Will oil and natural gas lead to not only a resurgent, but increasingly aggressive, Russia? As long as we rely so heavily on Saudi Arabia, will we ever be able to pressure them into becoming real partners for peace in the Middle East? Will our already complicated relationship with China become even more tense as we compete over access to oil with the Chinese? The answers to these questions are not so promising at this point.

### *Climate Change*

While most analyses of energy security focus on oil, there is another major player in the energy equation: coal. The U.S. is not in danger of becoming dependent on other states for coal, nor is it likely to compete with China over this resource – indeed, the U.S. and China have the world's largest coal resources, and they are the world's biggest consumers of it.

As significant cuts in emissions are needed to stem global warming, the world's two largest economies will be relying on one of the greatest sources of such emissions to sustain their power grids.

There is scientific consensus that without action to reduce carbon emissions, the world is on track to double its annual carbon emissions by 2050. The British government has warned that continuing the present course would have a cataclysmic effect on the global economy, devouring as much as 20 percent of the world's gross domestic product. Rapidly melting glaciers contribute to the growing scarcity of water resources, setting off potential flash points in some of the world's most volatile regions. NASA simulations that assume a forty centimeter sea level rise in the Atlantic by 2050 combined with a Category 3 storm found that a Katrina like fate could befall large parts of New York City.

The 2006 U.S. National Security Strategy (NSS) noted that “environmental destruction, whether caused by human behavior or cataclysmic mega-disasters such as floods, hurricanes, earthquakes, or tsunamis ... may overwhelm the capacity of local authorities to respond, and may even overtax national militaries, requiring a larger international response.” This may have been written with the tsunami experience in mind, but consider our own experience with hurricane Katrina -- the storm destroyed much of the city, knocked key parts of the nation's critical infrastructure (oil refineries) off line, killed more than 1,800 people, displaced more than 270,000. More than 70,000 soldiers were mobilized, including about 10 percent of the total National Guard strength.

In addition to the vulnerability of our cities and our critical infrastructure, consider the major military installations that are vulnerable to hurricanes. U.S. Central Command is headquartered in Tampa Bay; U.S. Southern Command is headquartered in Miami. In the last two decades, hurricanes have closed down two major air stations.

Add to these vulnerabilities the global consequences of climate change – displaced populations, droughts, floods, (all of which could result in more failed states) resource wars – and one can only imagine what extraordinary stress will be put on our national security apparatus to combat an adversary that it cannot defeat.

### *Getting on the Road to Security*

The energy security challenge – both in terms of energy independence and climate change – is indeed monumental. There is also no silver bullet. Consider the cheerleading over nuclear power. Proponents of nuclear power claim it can serve as an alternative to oil (if plug in cars are developed), natural gas and coal. However, if major cuts in emissions are needed this decade, nuclear power is not the answer. The first new U.S. reactor is scheduled for 2017 (without accounting for delays), and there is no other Western country with more than one nuclear plant under construction.

True energy security will not be achieved overnight. But thinking only of the long term may dig us a hole too deep to climb out of. There will be a great deal of rancor over details, but certain guiding principles can shape a serious energy security strategy.

In the short term, there must be a great deal of emphasis on *efficiency, economic incentives, goal setting, and research*. The United States is twice as energy efficient as it was in the 1970's, and it can be achieved once again. Energy efficient appliances, hybrid cars, fluorescent light bulbs, green roofs, and energy audits of older buildings can allow us to reduce our energy use without changing our behavior. The government should launch an energy literacy program that guides all Americans in how to become more energy efficient. Economic incentives – whether in the form of a cap and trade system, or in tax breaks for certain purchases or behaviors – will play a key role as well. Simply put, as long as it is cheaper to be less efficient and cheaper to pollute, we cannot substantially change such behaviors. To know exactly what economic incentives we should employ, specific goals should be declared, starting with our goals for reductions in carbon emissions. Finally, substantial investments in energy R & D must be increased, but not wasted on solutions that do more harm than good in the long term (such as ethanol). The history of oil and coal has been marked by technological advances. The future of energy should be tied to technological revolutions as well.

In the long term, *conservation* and a *new energy infrastructure* have to be part of the equation. We have to go from driving hybrids to driving less altogether. State and local governments have to redefine land use, creating neighborhoods that require less driving. A proliferation of high occupancy vehicle lanes, congestion pricing, and higher gas taxes combined with high speed rail and additional innovations in public transportation should transform the transportation industry, which accounts for roughly two-thirds of America's net oil consumption. And, after proper investment in technological advancements, we should be ready to benefit from a truly new energy infrastructure – wind farms, solar panels on most buildings, geothermal. Just as oil emerged 150 years ago to fuel an era, so will another resource.