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Changing Course Towards an Energy-Efficient Future

David R. Hodas



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Changing course towards an energy-efficient future

BY DAVID HODAS

One of the most significant recent developments in the area of energy and global warming has garnered little attention even though it is evidence both of a fundamental shift in our nation's approach to energy and the environment and of the crucial role lawyers will play in addressing climate change issues. While it goes to the heart of reducing greenhouse gases (GHGs) and emissions of sulfur dioxide, nitrogen dioxide, and mercury, it is not an international decision or action, a federal one, or a Supreme Court decision such as *Massachusetts v. EPA*, 127 S. Ct. 1438. Nevertheless, although this recent development does not involve any new pollution controls, it is central to addressing global warming while maintaining and growing a sound economy.

The development in question is the June 5, 2007, order of the Florida Public Service Commission (PSC), rejecting (by a 4–0 vote) a proposal by Florida Power & Light to build a \$5.7-billion 960-megawatt coal-fired power plant near Everglades National Park. According to *The St. Petersburg Times*, “[t]he denial marks the first time global warming has ever played a role in a PSC decision, and the first time in 15 years the [PSC] has rejected a new power plant.” The PSC’s decision was motivated by its belief that not building the plant would save customers huge costs, including the future costs of cutting GHG emissions. The decision could be the harbinger of the PSC’s approach to the five other proposals for new coal-fired power plants that are pending.

What makes this decision so important is that Florida has not only recognized that it can meet its electricity demand by relying on energy efficiency and renewable sources of energy, but it has acted.

Moreover, the decision was heartily endorsed by Florida Gov. Charlie Crist, a Republican. A few weeks later, on June 20, 2007, Gov. Crist vetoed an energy bill unanimously passed by the Florida legislature because it did not go far enough to wean the state off fossil fuels and reduce global warming. Gov. Crist wrote in his veto statement that he is “committed to advancing aggressively the climate change agenda and developing environmentally sound energy policy . . . focused on conservation, efficiency and reductions in greenhouse gas emissions. We can do better. We must do better.”

On July 17, 2007, Gov. Crist signed three executive orders—EO 07-126, 07-127, and 07-128—directing cuts in Florida’s GHG emissions and increases in energy efficiency and renewable sources of energy. In making this decision, Gov. Crist accepted California Gov. Arnold Schwarzenegger’s challenge that Florida address global warming. Florida is a state that has grown with little regard for energy efficiency or renewable

energy, accounting for over 4 percent of the United States’ carbon dioxide (CO₂) emissions. Its new path represents a profound change in attitude and a growing understanding of today’s energy and environmental challenges. Indeed, the decision signals a major course change for the United States as a whole. If other states follow, the United States could reduce its GHG emissions by 40 percent in a decade or two, while strengthening the economy

Initial signs are quite positive. The National Governors Association (NGA) Center for Best Practices recently issued a report on state energy efficiency and renewable energy policies. Following up on that report, Minnesota governor and NGA chair Tim Pawlenty recently announced *Securing a Clean Energy Future*, a new initiative aimed at identifying and implementing approaches to improving energy efficiency, reducing GHG emissions, and promoting renewable energy and advanced clean energy technologies. Gov. Crist is one of the eight governors comprising the initiative’s task force.

Why is it so important that Florida has acted to follow California’s example, and what would it mean if other states

followed? Quite simply, based on CO₂ emissions data maintained by World Resources Institute in its Climate Analysis Indicator Tool (CAIT) (<http://cait.wri.org/>), if the nation’s average annual per capita GHG emissions of 20 tons CO₂ (2001 data) were reduced to California’s per capita emissions of 12 tons, we would be emitting about 40 percent less GHG than we currently emit. Contrary to critics’ claims, California does track the GHGs related to the electricity it imports from coal-fired power plants in Nevada, Utah, and other states. In

2001, electricity imports accounted for only 47.4 million tons of CO₂ out of California’s total emissions of 488.7 million, or 9.6 percent. Including the imports increases California’s per capita emissions from 11 tons (instate-only emissions reported to the Environmental Protection Agency) to 12 tons per capita. California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2002 Update* (CEC-600-2005-025 2005) 21, table 1, available at www.energy.ca.gov/2005publications/CEC-600-2005-025/CEC-600-2005-025.pdf. California has now begun to reduce emissions an additional 25 percent below this level. While each state has its own economy and energy mix, if the average annual U.S. per capita emissions were 12 tons, overall U.S. emissions would be 40 percent below current levels (as noted above), although this would still leave the United States with the 15th highest per capita emissions in the world.

According to CAIT data, many states by themselves would



rank high on the world list of GHG emissions by country. For instance, Texas emits a little less than Germany but more than Britain; California exceeds France and Mexico. In fact, the top thirty-three states would each rank within the top fifty CO₂ emitters in the world. Even Vermont, with the lowest gross CO₂ emissions in the U.S., would rank 100th in the world.

Just as importantly, state per capita emissions are strikingly high compared with the rest of the developed world, let alone the developing nations; in terms of GHG emissions per unit of gross domestic product (GDP), the United States uses fossil fuels far less efficiently than its trading competitors, such as Japan, Germany, the United Kingdom, South Korea, Mexico, and Brazil (although more efficiently than China and India). Even the most energy-efficient state in the nation, Vermont (10.6 tons of CO₂/person), would be ranked in the top twenty-five nations of the world in per capita CO₂ emissions, just slightly better than the Russian Federation. The twenty-five countries in the European

Union average 8.7 tons per person, far less than the average of 20 tons per person in the United States. The five most inefficient states—Wyoming (130.4), North Dakota (82.9), Alaska (66.8), West Virginia (57.6) and Louisiana (41.3)—would rank in inefficiency one to five in the world, above the world's least efficient nations, Qatar (39.9), Kuwait (24.8), United Arab Emirates (24.1), Bahrain (20.9), and the United States (20.0). Twelve states would fit between Qatar and Kuwait, with another two states just below Kuwait, and four between Bahrain and UAE. Not only would Wyoming top the world's list, but its per capita emissions are 3.25 times greater than Qatar, the least energy-efficient nation in the world.

These data suggest that states face enormous challenges to become more efficient. Remarkably, if the U.S. average emissions per capita were the same as those of California—a large state with a profound love affair with driving—the 40 percent decline in total U.S. CO₂ emissions would represent 2.6 billion tons of CO₂ that would not be emitted into the atmosphere.

How did California achieve this feat? By steadily taking small steps over the past thirty years to improve energy efficiency and to promote renewable energy. Each step was the result of innovative laws and regulations designed to implement energy-efficiency policy. Energy-efficiency savings have been enormous, achieved at a cost 50–75 percent lower than the cost of building new generation supply. Energy efficiency has the added benefits of being pollution free and of enhancing electricity system reliability. At the same time, the state's economy grew strongly, from a gross state product (GSP) of \$232 billion in 1977 to \$1.62 trillion in 2005.

A combination of energy efficiency and renewables can more than meet the projected future demand growth in states that have been studied. For instance, in Florida, a study by R. Neal Elliott et al., entitled *Potential for Energy Efficiency and Renewable Energy to Meet Florida's Growing Energy Demands*

found that a combination of eleven cost-effective efficiency and energy-renewable policies, if implemented, could reduce electricity demand growth from its projected level in 2023 by 45 percent, thereby meeting the projected growth in demand and reducing total electricity use about 20 percent from 2008 levels. According to the study, summer peak demand would be reduced by 31,568 milliwatts (mW) (the equivalent of more than sixty new 500 mW coal-fired power plants), a 36 percent reduction from projected demand in 2023. Overall, after investing in these policies and resources, consumers would save about \$84 billion in electric bills by 2023. The CO₂ savings from not building the additional fossil fuel plants, and perhaps retiring some old coal plants, would be enormous.

Preliminary results of recent analysis of the role of law and policy in advancing energy efficiency indicate that essentially all the energy-efficiency savings are attributable to well-

designed and implemented state laws and policies. In particular, building codes and appliance standards have been the most cost-effective and durable means of achieving significant energy efficiency. According to the California Energy Commission, improved building and appliance standards have saved 6,000 mW in peak demand since 1975; the commission expects these standards to save 10,000 mW by 2010. In addition, appliance efficiency standards adopted in 2004 will reduce consumer utility bills by \$3.3 billion over fifteen years. Other effective legal tools include energy-efficiency portfolio standards, energy-efficiency utilities, and

laws that reward utilities for providing electricity more efficiently, such as removing disincentives, decoupling rates from profits, bonus rates of return, and efficiency performance incentives.

Recent analytical studies seeking to explain the variance among states in the amount of electricity used for each dollar of GSP found that, adjusted for climate differences and cost of energy, over 97 percent of the efficiency gap between states is attributable to the energy policies of the states in question. In other words, the laws and regulations we put into effect have a direct bearing on how energy efficient our economy becomes. Getting the policies right is essential to meeting the challenges of global warming, energy security, and other environmental issues posed by our energy system. Getting the policies wrong will set us back. As lawyers, we will be materially responsible for success or failure.

David Hodas is a professor at Widener University of Law, Wilmington, Delaware, and a member of the Natural Resources & Environment board. This paper is based in part on remarks Professor Hodas delivered at the ABA Standing Committee on Environmental Law's 35th National Spring Conference on the Environment – Global Warming: How The Law Can Best Address Climate Change.

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