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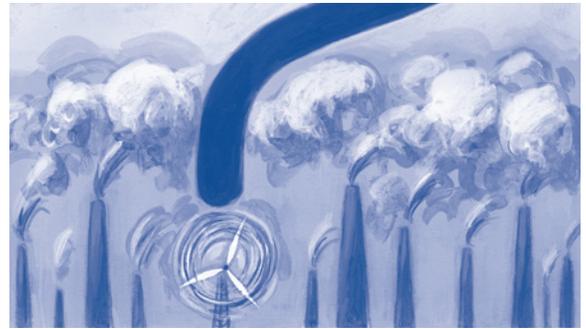
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What We Can Expect from the Federal Government to Address Climate Change and Energy Independence

by Adam Cote



Adam Cote highlights major federal energy and climate initiatives that the new administration and Congress are likely to try to enact. Many of these initiatives could be important for Maine, particularly policies and funding that promote clean energy, energy efficiency, conservation, and “green-collar” jobs. 🐟

As the Obama administration takes over in January 2009, expectations are high that the new administration will put forward significant proposals to address climate change and energy independence. As a presidential candidate, Barack Obama outlined a wide range of initiatives aimed at providing long-term solutions to America's over-reliance on fossil fuels, comprehensively addressing climate change, and building a "new economy" based on jobs tied to a clean energy future.

Of course, presidents do not operate in a vacuum, and there will be a number of players in Washington who will be involved in crafting federal policy. In addition, funding for such initiatives has been called into question in the midst of a global financial crisis, diplomatic problems, and ongoing wars. Despite such challenges, all indications from President Obama, along with major players in the new Congress, are that the federal government will act early and comprehensively to address climate change and energy independence.

The purpose of my essay is to highlight the major initiatives that will likely be at the top of the agenda under the new administration and Congress and, where appropriate, to discuss the implications such policies could have in Maine. Obviously, this short exercise is not meant to be a comprehensive examination of all aspects of federal energy policy, or of what we can expect from Washington in the next administration. Rather, my intent is to provide a "primer" on emerging national issues and how they can translate on our local level.

CLIMATE LEGISLATION

The new administration has proposed a nationwide cap-and-trade program to reduce greenhouse gas emissions 80 percent below 1990 levels by 2050. Several similar programs are being proposed in Congress. Essentially, a nationwide cap-and-trade program would operate to place a limit on the large-scale emissions of carbon dioxide (CO₂) and other greenhouse gases. Each emitter, or company, would require an emissions permit or "credit" for every ton of carbon dioxide it releases into the atmosphere. The emissions permits set a limit or "cap" on the amount of emissions a company is allowed to emit. Companies

that emit lower emissions than their allowance may "trade" their extra emissions credits to companies that are not able to reduce their emissions as easily. In effect, companies that have to buy emissions credits would essentially pay a charge for polluting, whereas companies that sell their emissions credits would be rewarded for their efficiency.

Funds generated by the program would create a large and dependable revenue stream for the federal government's implementation of several initiatives. Under the proposed plan, the revenue generated from the cap-and-trade program would be used to fund energy efficiency and development, wildlife conservation, and relief to families and communities affected by the transition to a new energy economy.

In the absence of federal leadership on the matter, several states, including Maine, have already acted on climate change legislation. Maine is part of a 10-state coalition involved in the Regional Greenhouse Gas Initiative (RGGI), the nation's first mandatory and operational cap-and-trade system for reducing CO₂ emissions. (Two other regional systems are under development, the Western Climate Initiative and the Midwestern Regional Greenhouse Gas Reduction Accords.) RGGI is designed to limit CO₂ emissions from coal and natural gas-fired power plants to current levels through 2014 and then reduce them 2.5 percent per year between 2014 and 2018. (See Bogdonoff, this issue, for discussion of RGGI.)

What remains to be seen is whether RGGI and other regional initiatives will be preempted or integrated into a federal cap-and-trade system that will likely take shape in the next Congress. In either case, a federal system is clearly needed to address potential "leakage" issues that may occur in regional programs

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that do not cap emissions attributable to electricity imported from facilities located outside its jurisdiction. In other words, a nationwide program has the benefit of reducing emissions by removing the potential to shift greenhouse-gas-emitting activities to regions with less stringent or no caps.

DEPLOYING CLEAN ENERGY

The new administration has also proposed to diversify our nation's energy portfolio by requiring 10 percent of electricity to come from renewable sources by 2012, increasing to 25 percent by 2025. It has also proposed extending federal tax incentives to spur investment in clean energy development. Such a plan would establish a federal renewable portfolio standard (RPS) to spur electric generation from clean, sustainable sources like wind, solar, and geothermal. Equally significant, the new administration favors extending production tax credits (PTCs) for an additional five years. The PTC was recently renewed by Congress for only one year, making investors uncertain whether it would be available after projects had been started. Extending the PTC for five years is important because it creates a stable and predictable credit for investors to support long-term investments in renewable energy projects.

viability of offshore wind farms in the Gulf of Maine, which, in theory, could provide enough power to provide all of Maine's electricity needs as well as heat its homes. In Maine, the high wind periods are in the winter, coinciding with high demand for fossil fuels and electricity. With 80 percent of Maine homes currently heated with fuel oil, switching to electric heat provided by clean wind power could dramatically reduce the state's CO₂ emissions, not to mention the long-term costs of energy.

A RELIABLE GRID: IMPROVED TRANSMISSION AND MONITORING

The establishment of a nationwide RPS and the extension of federal tax incentives for renewable energy sources will greatly improve our nation's efforts to become energy independent. Such measures, however, will require a reliable integration with a transmission system that was not designed to handle the large-scale generation from renewable sources like wind and solar.

Until now renewable power generators have typically piggybacked on existing transmission lines. But with a large-scale production of renewable energy projects coming online, the capabilities of the transmission grid will need to be greatly enhanced. For example, the best sites for wind and solar projects are seldom near existing transmission lines. Moreover, the production of such power is intermittent (i.e., when the sun shines and the wind blows), therefore requiring an electrical grid that can balance the load. To address these issues, the new administration has proposed overhauling the nation's electricity grid by establishing a Grid Modernization Commission to facilitate the adoption of "smart grid" practices to manage peak load reductions and realize energy-efficiency savings through smart metering, demand response, distributed generation and electricity storage systems. It has also proposed strengthening FERC authority over siting of transmission lines.

The modernization of the nation's transmission system is a key requirement for the large-scale deployment of clean energy. It is likely, however, to be the most controversial. While the enthusiasm for renewable energy production is at a fever pitch, many people fail

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Maine is well positioned to capitalize on federal policies that promote investments in clean energy. It is one of nearly 30 states that already have a statewide RPS in place and is quickly becoming a regional leader in wind energy. It hosts New England's largest wind power production facility on Mars Hill in Aroostook County and has several thousand megawatts worth of additional projects throughout the state in the queue for Federal Energy Regulatory Commission (FERC) approvals. (See Parker, this issue.) In addition, Governor Baldacci has appointed a commission to study the

to recognize the concomitant necessity of improving the electrical infrastructure. The federal government has also been reluctant to impose its jurisdiction on state governments, which traditionally have exercised authority over the grid and been reluctant to support the improvement of lines that could transport power outside their own states.

There are several large-scale transmission upgrades under consideration in Maine, and more will be needed as additional renewable energy generators look to come online. As this occurs, there undoubtedly will be considerable debate concerning the necessity of such upgrades as citizen groups and people living near transmission corridors intervene to oppose the projects. It is a national debate that will be going on locally and will be a key test to the country's commitment to a new energy economy.

EFFICIENCY, CONSERVATION AND "GREEN-COLLAR" JOBS

Initiatives to address energy efficiency, conservation, and the creation of jobs in new energy technologies are perhaps the boldest aspects of the new administration's plans to restructure the way we approach our energy challenges. Aggressive demand-side measures have been proposed to reduce electricity consumption 15 percent by 2020 by creating annual demand reduction targets for utilities. Under this plan, the profit model for utilities would be flipped, by requiring states to implement procedures that reward utility companies for improving energy efficiency and reducing demand, rather than from supporting higher energy consumption.

Another proposal is to set a national goal of making all new buildings carbon neutral by 2030 and a goal of improving all new and existing buildings' energy efficiency by 50 percent and 25 percent, respectively, over the next decade. In addition, all new federal buildings would produce zero emissions by 2025 and achieve a 40 percent increase in efficiency within five years. The Department of Energy would likewise update and improve appliance efficiency standards nationwide. And finally, the new administration has proposed to weatherize one million low-income homes annually over the next 10 years.

Fuel economy standards for cars, trucks, and SUVs would be increased as would investments in advanced vehicle and battery technologies to bring more plug-in hybrid and electric vehicles to market. All new vehicles would be required to have the capability to run on more than one fuel (flex-fuel). To speed the introduction of clean, alternative fuels, a national low-carbon fuel standard would be established, requiring fuel suppliers to reduce the carbon in their fuels by five percent within five years and 10 percent within 10 years, starting in 2010.

A capstone to the proposed new energy initiative would be the investment of \$150 billion over the next 10 years to revitalize America's economy and create five million new "green-collar" jobs. The funds would be used to promote the commercialization of plug-in hybrid vehicles, commercial-scale renewable energy projects, energy-efficiency initiatives, improvements to the electric grid, and research and development for advances in alternative fuels. A federal investment program would also be created to convert manufacturing centers into facilities that manufacture clean technology products. The program would allocate funds to states to identify and support local manufacturers of clean technologies and include funding for job training. Finally, the new administration has proposed a "green vet initiative" to offer job placement and training for troops who served in Iraq or Afghanistan to enter the new energy economy.

Maine could be well served if several of the proposed energy efficiency and green-collar jobs initiatives come to fruition. The state has one of the oldest housing stocks in the nation, coupled with a low per capita income and would be a likely recipient of significant federal funds for the weatherization of low-income homes. (See McCormick and Van Hook, this issue.) Moreover, Maine has the potential to be a national leader in the development of alternative fuels such as cellulosic ethanol and could benefit from the proposed plan to speed the production of alternative fuels. Maine also has one of the highest per capita populations of veterans, many of whom could benefit from the green vet initiative.

As a general matter, however, the largest overall benefit to Maine could come from the increase in jobs created by these proposals. Economy-wide investments



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in energy efficiency, weatherization, and clean technology manufacturing would give a much needed boost to Maine's economy. The transition to a new energy economy through weatherization could provide significant economic development opportunities for Maine by creating a green-skilled workforce, particularly in the building and construction trades (see Brown and Ginn, this issue). Likewise, Maine's manufacturing sector, which has experienced dramatic losses in its paper, textile, and shoe industries, could benefit from President-elect Obama's plan to convert manufacturing centers to clean technology centers and the training of a skilled workforce.

CONCLUSION

As a candidate, Barack Obama put forward a far-reaching, comprehensive plan to address climate change and America's dependence on fossil fuels. His administration and the new Congress will have the opportunity to implement the vision of "new energy for America." Despite the severe economic downturn, which has included the collapse of the global financial sectors, the American people seem to have the will to evolve our economy into one powered by clean energy, conservation, and efficiency. Maine seems well poised to benefit from that transition. Indeed, it will be exciting if Washington finally takes the lead. 🐟

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