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Where Is Nuclear Energy in the Markey–Waxman Energy Bill?

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Congressmen Ed Markey (D–MA) and Henry Waxman (D–CA) released their draft legislation, the American Clean Energy and Security Act of 2009, which puts forth a massive energy agenda that they claim would transform America's economy and create millions of jobs by promoting a new clean energy economy.

While the bureaucratic-laden approach offered by the legislation is extremely problematic, the fact that it has virtually no mention of nuclear power calls the entire green initiative into question. If reducing carbon dioxide and other emissions, creating jobs, and promoting domestic energy sources were truly the objective, then nuclear energy should be central to the legislation.

Nuclear power already provides the United States with 20 percent of its electricity and 73 percent of its CO₂-free electricity. When it comes to affordable near-term reduction of CO₂ and other atmospheric emissions, the importance of nuclear power cannot be overstated.

Emissions Free, Versatile, and Available. Like wind and solar energy, nuclear energy is emissions-free, which means CO₂-free. Unlike wind and solar, nuclear energy can provide vast amounts of power on a constant basis. Wind and solar may have a role to play in America's energy mix, but in order to obtain clean, CO₂-free energy, it seems that such a major piece of legislation should address the regulatory and policy issues that obstruct new nuclear power in the U.S.

But what makes nuclear energy potentially transformational is its versatility. Today the nation primarily uses nuclear power for electricity generation. Electric power production accounts for roughly 40 percent of America's total energy consumption.¹ Nuclear accounts for 20 percent of America's electricity. But clean, affordable nuclear power can also be used to produce energy for industrial applications and even transportation, which account for 21 percent and 29 percent of U.S. energy consumption, respectively.

For example, some reactor types could be used in the chemical industry, for plastics production, and for refinery operations, all of which use vast amounts of carbon-based energy to produce heat, which is necessary for their industrial activities. Nuclear energy could also be used to produce synthetic fuels that could run America's cars. While these technologies are not commercially viable today, they are the types of things that could be possible if the federal government would develop a regulatory and policy structure that was more conducive to growth in the nuclear sector.

Jobs Here, Jobs Now. Nuclear energy is a jobs creator. According to the Nuclear Energy Institute,

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the nuclear industry has created some 15,000 jobs in recent years—all without even beginning construction on a new plant.² These include jobs in the sciences, manufacturing, and construction that private-sector investors have created as they prepare to meet future construction demand. Once construction begins, up to 2,000 workers will be required to build each plant, and approximately 500–600 will be needed to operate it.³

What the American Clean Energy and Security Act Should Say About Nuclear Power. The Markey–Waxman bill focuses too much on the process of energy production rather than on the product itself. For example, it creates so-called renewable energy standards that mandate only certain types of energy production, such as wind and solar.⁴ This approach artificially eliminates energy sources—including those that have not even been invented yet—that could help achieve Congress's goals. The Markey–Waxman legislation should include the following reforms for nuclear power:

- **Reform the Arduous Permitting Process for New Nuclear Power Plants.** Congress should institute a fast-track program for granting construction/operation permits for certain new plants. To qualify, a new plant would have to have a Nuclear Regulatory Commission (NRC)-certified design, be located on a site that already has a plant, and be operated by an experienced nuclear operator.⁵
- **Modernize Nuclear Waste Management.** Congress should authorize nuclear waste producers to finance and manage their own spent nuclear fuel however they see fit so long as public health and safety is protected. This must include repeal-

ing the fee paid to the federal government for waste disposition activities. Fees already paid to the federal government should either go toward financing geologic storage or be returned to the ratepayers.

Putting waste-disposition responsibility into the hands of waste producers would create a market for fuel management services and allow nuclear power operators to fold the actual costs of nuclear energy into what they charge for electricity. This would allow the most cost-effective and efficient methods of waste management to emerge and encourage entrepreneurs to develop innovative waste management technologies.

- **Support the NRC's Authority to Determine the Safety of Yucca Mountain.** The NRC should be allowed to review the Department of Energy's permit application for the Yucca Mountain repository and determine if it can be constructed and operated safely. If it is deemed safe, Congress should allow the nuclear power industry to negotiate the eventual opening of the repository with the people of Nevada.
- **Implement Programmatic Changes at the Department of Energy (DOE).** A number of programmatic changes at DOE could help save the taxpayer money, bring promising technologies into the marketplace more quickly, and help to ensure an innovative and competitive nuclear industry. Nuclear Power 2010 began in 2002 as a public/private partnership to develop a roadmap to bring an advanced light-water reactor on line by 2010. Permit applications to construct some 30 new reactors have been submitted in recent years, with construction scheduled to begin in the next

1. United States Energy Information Agency, *U.S. Primary Energy Consumption by Source and Sector, 2007*, at http://www.eia.doe.gov/emeu/aer/pecss_diagram.html (April 1, 2009).
2. Nuclear Energy Institute, "New Nuclear Plants: An Engine for Job Creation, Economic Growth," at http://www.nei.org/filefolder/10_WHITEPAPER-NewNuclearPlants-AnEngineforJobCreationEconomicGrowth.pdf (February 19, 2009).
3. Jack Spencer and Nicolas Loris, "Washington Subsidies Not Necessary to Rebuild U.S. Nuclear Industry," Heritage Foundation *Background* No. 2207, November 10, 2008, at <http://www.heritage.org/Research/EnergyandEnvironment/bg2207.cfm>.
4. Nicolas Loris and Ben Lieberman, "2009 Energy Bill: Anti-Market and Anti-Consumer," Heritage Foundation *WebMemo* No. 2378, April 2, 2009, at <http://www.heritage.org/Research/EnergyandEnvironment/wm2378.cfm>.
5. Jack Spencer, "Time to Fast-Track New Nuclear Reactors," Heritage Foundation *WebMemo* No. 2062, September 15, 2008, at <http://www.heritage.org/Research/EnergyandEnvironment/wm2062.cfm>.

few years. This demonstrates that the program is close to meeting its primary objectives and is ready to be wound down in the next two years.⁶

The Next Generation Nuclear Plant (NGNP) is another public/private cost-sharing technology development program, with the aim of developing high-temperature gas-cooled reactor (HTGR) technology. Unfortunately, the DOE and the NRC's NGNP strategy would not allow for a new HTGR to come on line until 2021.⁷ This is too long. Congress should revisit this timeline with the purpose of accelerating it substantially.

And finally, Congress should create an Office of Nuclear Entrepreneurship. Innovation in the nuclear sector has burgeoned in recent years, but policies and regulation largely support commercially existing technologies. An Office of Nuclear Entrepreneurship could help investors overcome these barriers by developing policies and regulatory guidance that promote private-sector innovation.

No Nuclear, No Credibility. If CO₂ reduction is truly the objective, then maximizing America's nuclear resources should be a top priority. This will require a major restructuring effort from Congress and the Administration that emphasizes market-based reforms that ensure long-term regulatory stability and policy predictability. Most importantly, these reforms can be done without additional cost to the taxpayers.

Without such an effort, the billions of dollars of private capital needed to expand America's nuclear capacity will simply not be invested. These private investments will ultimately be what is needed for the nation to achieve the goals set forth by the American Clean Energy and Security Act of 2009.

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6. Jack Spencer, "A To-Do List for Secretary Chu on Nuclear Energy Policy," Heritage Foundation *WebMemo* No. 2321, March 3, 2009, at <http://www.heritage.org/Research/EnergyandEnvironment/wm2321.cfm>.
 7. U.S. Department of Energy, "Next Generation Nuclear Plant Licensing Strategy: A Report to Congress," August 2008, at http://www.nuclear.energy.gov/pdfFiles/NGNP_reporttoCongress.pdf (February 20, 2009).