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DOING MORE WITH LESS: INCORPORATING ENERGY EFFICIENCY INTO A NATIONAL RENEWABLE ENERGY STANDARD

by Rachel Kirby*

In the absence of an effective national policy to combat climate change, states have enacted renewable portfolio standards (“RPS”) to require a percentage of supplied power with renewable resources which, among other things, reduces greenhouse gas (“GHG”) emissions.¹ As Congress considers a national RPS, it must be aware of the role of energy efficiency. Renewable energy production may not be sufficient to meet new demand for electricity. However, if electricity demand stabilizes because of greater efficiency, renewables can replace conventional sources and reduce U.S. GHG emissions.² A standard that requires renewable resources alongside greater efficiency is more effective and economically efficient than a renewable standard alone.³

Energy efficiency can reduce GHG emissions while renewable technologies become cost-effective. Renewable sources alone could result in a 22 percent drop in conventional electricity generation and combining renewables with efficiency increases could result in a 44 percent reduction in conventional generation by 2020⁴ and cut GHG emissions in half.⁵ While a renewable energy standard initially increases energy costs, it reduces consumer costs when combined with an efficiency standard.⁶ Additionally, lower demand reduces conventional fuel costs, potentially offsetting a future tax on GHG emissions.⁷

Of states with renewable energy requirements, fifteen have created or are considering energy efficiency targets.⁸ Each state has different standards of renewable energy, and different targets.⁹ Among those states, Texas established a requirement that utilities offset ten percent of demand growth with increased energy efficiency. The state’s utilities are currently exceeding that target.¹⁰ Connecticut, Nevada, and Pennsylvania have adopted legislation requiring the use of “white tags,” which represent one mega-watt-hour (MWh) of energy conserved, and can be traded on a market like GHG emissions or renewable energy credits.¹¹

GHG emissions are much more than a state problem and a national policy is necessary to bring about national reductions in emissions. A federal policy on renewable energy and efficiency would provide regulatory clarity and direct innovation.¹² However, a federal law should not adopt a weak national standard that would preempt stricter state standards.¹³ An effective

national energy policy needs to include elements such as improved appliance efficiency standards, building efficiency standards, decoupling utilities’ profits from electricity sales, promotion of combined heat and power systems, and a public benefits charge to fund efficiency programs.

Appliance efficiency standards eliminate the least efficient portion of the market. In the United States, homes and commercial buildings are responsible for over two-thirds of electricity use¹⁴ and large savings are possible. Because builders and designers are not ultimately responsible for future energy costs, they have little incentive for more efficient designs.¹⁵ Regulations mandating building efficiency standards will increase efficiency and educate consumers in possible energy savings.¹⁶

Decoupling utility profits from sales eliminates the incentive to sell more energy.¹⁷

Combined heat and power systems increase the efficiency of fossil fuels by converting waste heat produced by electricity generation into usable energy, increasing the efficiency from about thirty to ninety percent of the fuel’s potential energy.¹⁸ A public benefits charge provides

funding for state or federal agencies to implement and monitor efficiency programs.¹⁹

The next administration should assume global leadership by aggressively supporting innovative solutions to climate change. While renewable energy sources are a vital and effective tool in the effort to reduce GHG emissions, energy efficiency is a source of immediate and extensive benefits. The next national energy policy must require both renewable energy sources and greatly increased energy efficiency.



Energy efficiency can reduce GHG emissions while renewable technologies become cost-effective.

Endnotes:

¹ Marilyn A. Brown et al., *Reduced Emissions and Lower Costs: Combining Renewable Energy and Energy Efficiency into a Sustainable Energy Portfolio Standard*, THE ELECTRICITY JOURNAL, May 2007, at 62, 63.

² Joel N. Swisher, *Potential Carbon Emissions Reductions from Energy Efficiency by 2030*, in TACKLING CLIMATE CHANGE IN THE U.S. 39, 48 (Charles F. Kutscher ed., 2007).

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*Rachel Kirby is a J.D. candidate, May 2010, at American University, Washington College of Law.

ENDNOTES: DOING MORE WITH LESS *continued from page 26*

³ Brown, *supra* note 1, at 63.

⁴ INTERLABORATORY WORKING GROUP ON ENERGY-EFFICIENT AND CLEAN-ENERGY TECHNOLOGIES, OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY, U.S. DEPARTMENT OF ENERGY (2000), *Scenarios for a Clean Energy Future*, at 7.18, available at <http://www.ornl.gov/sci/eere/cef/> (last visited Oct. 10, 2007).

⁵ INTERLABORATORY WORKING GROUP *id.* at 7.19.

⁶ Bill Prindle & Maggie Eldridge, American Council for an Energy Efficient Economy, *The Twin Pillars of Sustainable Energy* (May 2007), 10, available at <http://www.aceee.org/store/proddetail.cfm?CFID=140174&CFTOKEN=18932450&ItemID=432&CategoryID=7> (last visited Nov. 17, 2007).

⁷ Luisa M. Freeman, A BUSINESS CASE: ENERGY EFFICIENCY IN THE NEW ENVIRONMENT, PUBLIC UTILITIES FORTNIGHTLY, Dec. 2006, at 46, 48.

⁸ American Council for an Energy Efficient Economy, *The House-Passed Combined Renewable Energy and Energy Efficiency Standard*, available at http://aceee.org/energy/national/1pager_House_RES-EERS.pdf (last visited Nov. 17, 2007).

⁹ Benjamin K. Sovacool & Jack N. Barkenbus, *Necessary but Insufficient: State Renewable Energy Portfolio Standards and Climate Change Policies*, ENVIRONMENT, July 1, 2007, at 20.

¹⁰ Steven Nadel, American Council for an Energy Efficient Economy, *Energy Efficiency Resource Standards*, (Mar. 2006), iii, available at <http://www.aceee.org/store/proddetail.cfm?CFID=140174&CFTOKEN=18932450&ItemID=409&CategoryID=7> (last visited Nov. 17, 2007).

¹¹ Treehugger, *An Alternative to Green Tags – Sterling Planet’s “White Tags,”* (May 11, 2006), http://www.treehugger.com/files/2006/05/an_alternative.php (last visited Nov. 17, 2007).

¹² Sovacool, *supra* note 9.

¹³ Sovacool, *supra* note 9.

¹⁴ Thomas R. Kuhn, *Energizing Efficiency’s Potential*, THE ELECTRICITY JOURNAL, Oct. 2006, at 83, 86.

¹⁵ UNITED NATIONS ENVIRONMENT PROGRAMME, BUILDINGS AND CLIMATE CHANGE 43 (2007) available at http://www.unep.fr/pc/sbc/documents/Buildings_and_climate_change.pdf (last visited Oct. 14, 2007).

¹⁶ UNITED NATIONS ENVIRONMENT PROGRAMME, *id.* at 56.

¹⁷ Sandra Levine & Katie Kendall, *Energy Efficiency and Conservation: Opportunities, Obstacles, and Experiences*, 8 VT. J. ENVTL. L. 101, 112-13 (2006).

¹⁸ Levine, *id.* at 107.

¹⁹ Freeman, *supra* note 7, at 46.