

spotlight

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RENEWABLE ENERGY AT ALL COSTS

Legislation ignores the will of the public and would have unintended consequences

KEY FACTS: • The Senate has passed a major electricity bill that includes something called a renewable energy and energy efficiency portfolio standard (REPS).

- The REPS consists of two separate requirements: A renewable portfolio standard that requires utilities to provide customers 7.5 percent of their electricity from renewable energy sources, such as wind and solar, and energy efficiency measures that require a 5 percent reduction in energy use.
- Despite having higher residential electricity rates than its neighbors, North Carolina would soon require that customers pay extra taxes for electricity in order to subsidize renewable energy and help encourage customers to buy energy efficient products, even if the customers would buy the products themselves.
- North Carolinians have voluntarily chosen not to subsidize renewable energy by paying more for electricity through the NC GreenPower program, so the legislature apparently would force electricity customers to support renewable energy against their will.
- The bill is loaded with “goodies” for special interests, including tax credits. For electricity customers, the cost for the renewable portfolio standard has been estimated to be about \$310 million annually. The cost of energy efficiency, like most of the costs, are unclear.

• There could be serious unintended consequences, particularly for mountain and coastal communities. For the 7.5 percent renewable requirement to be met, it likely would require massive industrial wind turbines on the coast and either in the mountains or offshore.

• The REPS is a regressive tax; it would have a disparate impact on the poor.

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the state legislature is considering some massive changes that would affect the electricity industry. In particular, the Senate recently has passed a bill, S.3, entitled “Promote Renewable Energy/Baseload Generation.”¹

The bill would provide benefits to numerous special interests, known as stakeholders, while increasing costs on the most important stakeholders: elec-

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200 W. Morgan, #200
Raleigh, NC 27601
phone: 919-828-3876
fax: 919-821-5117
www.johnlocke.org

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tricity customers. The primary special interests for this bill are utilities and environmentalist groups. The legislation not only would fail to reduce electricity prices for customers, it would increase electricity prices. It would not improve reliability or service for customers, but instead would require customers to subsidize less reliable sources of energy.

At the heart of this bill is a 12.5 percent “renewable energy and energy efficiency portfolio standard” (REPS). This *Spotlight* is designed to provide an easy-to-understand analysis of S.3 and primarily the REPS. Through a question-and-answer format, it will examine many key issues, including the costs to customers, myths, and unintended consequences.

Background

What is the 12.5 percent renewable energy and energy efficiency portfolio standard?

The 12.5 percent renewable energy and energy efficiency portfolio standard consists of two separate requirements: a renewable portfolio standard and energy-efficiency measures. The renewable portfolio standard would require utilities to provide customers 7.5 percent of their electricity through renewable sources of energy, such as wind, solar, or biomass. The other 5 percent would come from reduced electricity usage owing to energy-efficiency measures.²

How does energy efficiency meet the remaining 5 percent?

The bill presumes that electricity customers are incapable of making sound decisions on their own. As a result, utilities would be required to charge extra to customers so that utilities could provide financial incentives to these same customers if they were to reduce their energy usage (with the goal of reducing all usage by 5 percent). A typical incentive would be a payment to subsidize half of the cost for an energy-efficient appliance.³

There is nothing wrong with energy efficiency. There is, however, something wrong with a “nanny state.” Businesses have to earn a profit and are capable of determining if they should make investments in energy efficiency. Individuals will, and do, buy energy-efficient products already, without needing to be taxed into making the “right” decision.

Why does the bill combine the energy-efficiency requirement with the renewable portfolio standard requirement?

Most likely, the bill combines the requirements to make the REPS look more impressive. But both are distinct requirements that are being forced together. In fact, most states that have a renewable portfolio standard do not combine it with an energy-efficiency requirement.⁴

Does La Capra Associates (the North Carolina Utilities Commission’s consultant on a REPS) consider a 12.5 percent REPS to be practical?

No. La Capra considers the 12.5 percent requirement to be impractical. Responding to questions from legislative committees, La Capra discusses likely problems with obtaining wind energy and states, “Though not discussed in the REPS report, we believe a 10% REPS with up to 50% from energy efficiency and the remainder from renewable energy is a more practical goal in light of such barriers. In this way, neither the maximum potential for renewable generation nor energy efficiency is exhausted.”⁵

Costs to Customers

How does the cost of electricity in North Carolina compare with those in neighboring states?

As can be seen in Figure 1, North Carolina already has some of the highest electricity prices in the region. Residential electricity prices in North Carolina are, on average, 8 percent higher than those in Georgia, Virginia, South Carolina, and Tennessee.⁶

Figure 1. Electricity Prices by State and Sector, from Highest Costs to Lowest (Cents/Kilowatt Hour)

Residential		Commercial		Industrial	
North Carolina	9.11	Tennessee	7.98	Tennessee	5.27
South Carolina	8.96	Georgia	7.94	North Carolina	5.12
Georgia	8.86	South Carolina	7.52	Virginia	4.86
Virginia	8.24	North Carolina	7.30	South Carolina	4.60
Tennessee	7.65	Virginia	6.21	Georgia	4.77
All Sectors					
		Georgia	7.37		
		North Carolina	7.35		
		Tennessee	6.69		
		Virginia	6.68		
		South Carolina	6.59		

*Reflects Energy Information Administration data for March 2007 electricity rates by state.⁷

North Carolina's electricity prices compare favorably with the national average, though, don't they?

Yes, but that is a poor way to measure North Carolina's electricity prices. That is because the resources that are available for energy production, and the prices at which they are available, vary according to region. Additionally, having the highest prices among neighboring states puts North Carolina at a competitive disadvantage in terms of trade and commerce.

Is there enough cost information to make informed decisions about S.3?

Absolutely not. The cost information for the REPS and other provisions in S.3 is very sparse, and if it exists, there is little in the way of clear explanations. This lack of clear information alone should be a red flag.

Much of the cost analysis that exists is from La Capra Associates. They did a study on the potential for a REPS in North Carolina and later provided a specific analysis of an early version of S.3.

What are the costs (in terms of purchasing electricity) to customers for the renewable requirement of the REPS?

According to La Capra Associates, the cost for the renewable requirement would be about \$310 million annually.⁸ These costs *may* be too low and are based on assumptions that the costs for renewable energy (about \$1.1 billion) would be offset by less construction of conventional plants (such as coal and nuclear). However, that is a large assumption given that new construction would be much easier if S.3 were enacted. There is a big gap between \$310 million and \$1.1 billion.⁹

Would there be a cap on the costs for the renewable energy requirement?

Yes, fortunately there would be a cap. Unfortunately, it is unclear what the total costs would be for customers. Special interests developed the cap, and not even the Utilities Commission has the cost information.¹⁰ However, there would be a clear cap on how much each customer would have to pay annually. Each customer's cap would be determined by what "customer class" they belong to (see Figure 2).

Figure 2. Caps by Customer Class Proposed by S.3

Customer Class	Annual Cap Per Account (FY 2015 and thereafter)
Residential	\$34
Commercial (including government)	\$150
Industrial	\$1,000

Figure 3. Costs Borne by Customer Class

Customer Class	Percentage of 2005 Energy Use (by Retail Sales)	Percentage of Costs Borne by Class, As Required in S.3
Residential	42.14%	56.60%
Commercial	34.14%	38.75%
Industrial	23.45%	4.65%

Customer Class	Actual Cost Caps	What the Caps Should Be If They Were Based on Energy Use	Percentage Difference
Residential	\$34	\$25.31	Actual cost cap is 34% extra
Commercial	\$150	\$133.19	Actual cost cap is 13% extra
Industrial	\$1,000	\$5,043.17	Actual cost cap is 80% less

Data from the Energy Information Administration at the U.S. Department of Energy¹¹

Would the caps be equitable between the customer classes?

No. The price caps would shift the costs of the renewable requirement away from industrial customers and toward residential and commercial customers, as demonstrated in Figure 3.

Would S.3 make the best use of available renewable-energy resources?

No. The bill would require utilities to buy renewable energy from costlier and less efficient sources of energy. These extra costs, of course, would be passed on to customers.

In particular, S.3 would require certain amounts of electricity to be derived from burning hog waste and poultry litter, as well as from solar energy. Solar power is a good example of wasted costs to customers. The La Capra report does not even consider solar power because of “current levels of installed costs”—in other words, it is simply too expensive.

What would be the costs (in terms of purchasing electricity) to customers for the energy-efficiency requirement of the REPS?

The costs for energy-efficiency measures are not clear. The administration and incentive costs for implementing these measures could be about \$150 million to \$185 million annually, based on La Capra data.¹²

However, there are many other costs as well, including a major cost that has not received much attention. S.3 would likely force consumers to make up for the revenues that would be foregone by utilities due to a decline in demand after they implemented energy-efficiency measures.

Figure 4. Estimated Loss of Government Revenue Due to S.3

FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
\$19 million	\$38.1 million	\$55.4 million	\$55.8 million	\$55.7 million

What are some other important costs concerns regarding energy-efficiency measures?

1. The measures are an unnecessary cost because consumers would reduce energy usage without the extra taxes.¹³
2. Utilities might offer energy-efficient products at higher than market prices. For example, in Georgia, there was a proposal to offer compact fluorescent light bulbs to customers. The utility wanted to collect \$3.50 for each bulb they gave away or subsidized. The same bulbs were selling for only \$1.75 at Wal-Mart, Home Depot and other retailers.¹⁴
3. It is dubious to assume that a 5 percent reduction in energy use would be a result of paying higher taxes for incentive programs. In fact, La Capra recognizes that there is “a problem in attributing the correct amount of energy savings from EE [energy efficiency] measures that are part of an RPS versus what would have otherwise resulted without any incentives.”¹⁵

Would there be a cap on the costs for energy-efficiency measures necessary to meet the 5 percent requirement?

No. S.3 would set no cap on this cost as it would with the renewable requirement.¹⁶ This lack of a cap is particularly troubling given how much uncertainty there is regarding the costs of energy-efficiency requirements.

Why should the extra charges be considered taxes?

The government would be mandating, through S.3, several extra costs to customers that are not necessary to receive electricity. The renewable charge would simply be a subsidy to renewable-energy providers. The energy-efficiency and demand-side management charges exist to reduce electricity usage, not to provide electricity. Quite simply, these are electricity taxes.

Would most customers even know about these taxes?

No, because the taxes would be buried in the rates. If there really were public support for these taxes, then the government should not try to hide the costs. There should be separate items on electricity bills to indicate the costs of the renewable-energy tax and the energy-efficiency tax.

There is a unique need to separate out these new taxes as opposed to separating out other costs, such as the cost of building a new power plant. When it comes to those costs, the government does not mandate them, and the Utilities Commission has to review the necessity for the construction before the costs would be imposed. Customers expect to pay for the necessary costs of receiving electricity; they do not expect to pay taxes that have nothing to do with those costs.

Costs to Government

How much revenue would be lost?

There are many tax cuts for special interests in S.3, including a tax cut on electricity sales to manufacturers.¹⁷ These tax cuts would result in major losses of government revenue. According to a fiscal note¹⁸ prepared by the legislature’s fiscal research staff, S.3 would result in the revenue losses shown in Figure 4.

Figure 5. Costs to Government for the Renewable Requirement²⁰

Government	FY 2007-08 to FY 2011-12	FY 2012-13 and thereafter
State	\$293,070	\$879,210
Counties	\$457,209	\$1,371,627
Municipalities	\$426,300	\$1,278,900

Wouldn't these tax cuts mean less money for the General Fund?

Yes, as a result of these tax cuts, other government programs would receive less funding or taxpayers would be forced to make up for the lost revenue.

Is there anything wrong with these tax cuts?

Individually, these tax cuts *could* be appropriate, but they should not be enacted as “goodies” to make the bill more palatable. A simple question: Does it make sense to provide an estimated \$224 million’s worth of tax cuts to special interests over the first five years of the bill?

How much would the renewable requirement cost the state, counties, and municipalities in their roles as customers?

According to the fiscal note,¹⁹ through FY 2011-12, the government would have a cap of \$50 per account. However, beginning the following year, those caps would be increased to \$150 per account, tripling the costs to state and local governments. These costs are provided in Figure 5.

Addressing the Myths

Isn't S.3 a stakeholder-driven “consensus” bill?

Even before the “stakeholder” process began, there was an existing bill that included only a REPS. The stakeholders had to work from this bill along with any imposed parameters. Their job was to work out the details and try to agree on how to develop a REPS bill.

The groups, such as utilities, that did not want the bill in the first place likely got involved in the process in order to minimize the damage that could be caused by such a bill. Ironically, some of the special interests that originally wanted the bill, many of them environmental groups, now oppose S.3.²¹

Doesn't the public support renewable energy?

The public *may* support renewable energy, but people do not support paying more for electricity in order to help subsidize renewable energy. The whole purpose of a renewable portfolio standard would be to force people to buy renewable energy because they are not buying it voluntarily.

North Carolina has a voluntary program called NC GreenPower that gives electricity customers the option of paying a premium in order to receive some of their energy from renewable sources. However, this program has dismal participation rates. Currently, North Carolinians choose to receive only 0.011 percent of their energy needs from renewable sources through this program.²² Nationally, participation rates for voluntary programs such as NC GreenPower also are very low and “have remained steady at just more than 1% of customers.”²³

Wouldn't a renewable portfolio standard help with national security by reducing our dependence on foreign oil?

It is very important not to confuse renewable energy as it pertains to fuels, such as ethanol, with renewable energy

as it pertains to electricity, such as wind power. According to the Edison Electric Institute:

RPS proposals are virtually irrelevant to that debate [regarding dependence on foreign oil]. For example, based on EIA [the U.S. Department of Energy's Energy Information Administration] estimates, a ten percent RPS mandate would save the equivalent of less than one gallon of gasoline per household per year! Only three percent of the electricity generated nationwide comes from oil, so the electricity industry is not a significant contributor to our oil dependence problem.²⁴

Shouldn't North Carolina be a leader in the Southeast by requiring a renewable portfolio standard?

There is a reason why only Virginia and no other state in the Southeast has a renewable portfolio standard, and it has nothing to do with leadership. Southeastern states simply do not have the renewable resources that many other regions do.

The Southeastern Association of Regulatory Utility Commissioners, the State of North Carolina, and eight other states sent a letter to Congress regarding a proposed federal renewable portfolio standard that explained:

The reality is that not all states are fortunate enough to have abundant traditional renewable energy resources, such as wind ... this is especially true in the Southeast and large parts of the Midwest.²⁵

Wouldn't there be environmental benefits from the REPS?

Biomass and wind would be the two primary renewable sources of energy in meeting a REPS.²⁶ It is unlikely that wind turbines would even be built given the likely resistance to this source of energy.²⁷ Wind power, even if it were developed, is unreliable and therefore would not reduce the need for conventional sources of power, such as coal.

Biomass has its own environmental problems. La Capra has noted that "combustion of biomass leads to many of the same kinds of emissions as the combustion of fossil fuels, including criteria air pollutants, greenhouse gases, and solid wastes (ash)."²⁸

Wouldn't the REPS create jobs?

Some supporters of the REPS have purported that using renewable sources like biomass would create more jobs in the energy industry.²⁹ The reason that would happen, however, would be because renewable sources of energy are less efficient and therefore would require more work to produce energy. Touting such job creation also presumes that it would be better to have 100 people working on a costly, inefficient source of energy than to have 50 people working on a cheaper, more efficient source of energy and the other 50 gainfully employed elsewhere.

The extra jobs that would be necessary to do this work would be financed through the renewable energy tax that would be hidden in electricity bills. Since electricity customers would have less money available to spend on other goods, the REPS would drive up unemployment in other parts of the economy. The REPS simply would trade jobs in more efficient and profitable industries for jobs in the renewable energy industry that have to be subsidized in order to exist. It wouldn't exactly be a one-for-one trade. This effect would be especially likely given that North Carolina's economy, except for recessions, generally operates at full employment.

Unintended Consequences

Why should mountain and coastal communities be concerned about the REPS?

Since wind power would have to provide much of the renewable energy in order to meet the REPS, there would be incredible pressure to have wind farms built in North Carolina. These farms consist of numerous industrial wind

Figure 6. Likely Location of Wind Turbines If the Renewable Requirement of S.3 Were Attained

Scenario	Explanation
Wind turbines would be placed on the coast and in the mountains.	La Capra assumed that turbines would be located in the mountains ³¹ despite the Mountain Ridge Protection Act (Ridge Law) that bans the construction of tall structures, likely to include wind turbines.
Wind turbines would be placed on the coast and off-shore.	If wind turbines are not located in the mountains, then the turbines would be located along the coast and offshore ³² (and N.C. would become the first and only state with offshore wind turbines).

turbines that can be as tall as 400 feet, or the height of a 40-story building. According to La Capra, “If the state is not able to develop its wind resources, we believe it will be virtually impossible to achieve a 7.5 [percent] renewables goal with the remaining in-State (on land) renewable resources.”³⁰

Quite simply, if a 7.5 percent renewable requirement is to be met, one of two disturbing scenarios would have to transpire (see Figure 6). Wind turbines would either be placed on the coast and in the mountains of North Carolina, or they would be placed on the coast as well as off-shore.

How would the REPS hurt the poor?

The REPS would be a regressive tax. This means that it would have a disparate impact on low-income individuals, because the amount of the tax would consume a greater proportion of their income than it would of more affluent individuals’ income. While the wealthy could simply trade off luxury items in order to subsidize renewable energy, S.3 would force lower-income individuals to make those tradeoff decisions concerning necessities such as food, shelter, or health care in order to pay the tax.

Who stands to be negatively affected by this legislation?

Figure 7 gives a detailed look at who would be the winners and losers under S.3 and why. Those who would lose out under S.3 would be residential and commercial consumers of electricity (the “little guys”) and coastal and mountain communities. The winners would be the special interests, such as utilities and environmental advocacy groups.

Conclusion

A REPS would be a direct infringement on personal freedom. It would amount to the government forcing its values and choices on the public. The costs of a REPS and S.3 to consumers could be hundreds of millions of dollars or even far greater. The legislature should know the detailed costs of such a bill, broken down in clear terms, before taking any type of action.

The REPS that has been created by S.3 would benefit only a few select groups, and it would do so at the expense of everyone else. There should not be “two North Carolinas” consisting of special interests with the resources to exert power and influence over the legislative process and the public who would suffer the consequences of that influence.

*Daren Bakst, J.D., LL.M., is Legal and Regulatory Policy Analyst for the John Locke Foundation.
Geoffrey Lawrence is a research intern for the John Locke Foundation*

Figure 7. Winners and Losers of Senate Bill 3

WINNERS	LOSERS
<p>Utilities — Would recover costs for REPS, including lost revenues from energy-efficiency measures — Would recover for “fuel and fuel-related costs” much more easily — Would not face nearly as much risk for new construction because much of the risk will be shifted to ratepayers</p> <p>Home Developers — Could avail themselves of tax credits worth up to \$2,000 for building energy-efficient homes</p> <p>Industrial Customers Industrial customers would still face significant costs; however, they would also receive the following benefits: — Would not have to bear costs of energy-efficiency measures and demand-side management if those programs had been implemented at the customer’s expense at any time in the past (this exception is not available to residential and commercial customers) — Would pay less than they should for meeting the renewable requirement because much of their costs will be borne by residential and commercial customers</p> <p>Manufacturers — Would be exempt from the piped natural gas tax — Would be exempt from the electricity sales tax — Would benefit from the phasing out of the privilege tax on manufacturing fuel</p> <p>Farmers — Would be exempt from the piped natural gas tax — Would be exempt from the electricity sales tax</p> <p>Taxpayers Who Can Financially Support Renewable Energy — Could avail themselves of tax credits available to individuals who contribute to nonprofits investing in renewable energy property</p> <p>Swine Waste Suppliers — Would benefit from the requirement that utilities buy swine waste to account for least 0.2 percent of their total electric power</p> <p>Solar Energy Facilities — Would benefit from the requirement that utilities buy solar energy to account for at least 0.2 percent of their total electric power</p> <p>Poultry Waste Suppliers — Would benefit from the requirement that utilities buy poultry waste to produce at least 900,000 megawatt-hours of their total electric power</p> <p>Environmental Advocacy Groups — Would achieve their objective of a REPS</p> <p>All Renewable Energy Providers — Would have a guaranteed market for their services; a market that previously did not exist</p>	<p>Residential and Commercial Customers — Would bear a significant cost for the renewable energy requirement of a REPS — Would bear a significant cost of the energy-efficiency requirement of a REPS — Would bear much greater risk for the construction of power plants</p> <p>Coastal Communities — Would be subject to massive wind turbines up to 400 feet tall (the height of a 40-story building) if the 7.5 percent renewable requirement is met — Would be subject to massive offshore wind turbines up to 400 feet tall (the height of a 40-story building) if the 7.5 percent renewable requirement is met and there are no wind turbines in the mountains</p> <p>Mountain Communities — Would be subject to massive wind turbines up to 400 feet tall (the height of a 40-story building) if the 7.5 percent renewable requirement is met and the Ridge Law is either interpreted as not prohibiting wind turbines in the mountains or is amended</p>

End Notes

1. General Assembly of North Carolina, Session 2007, Senate Bill 3, ncleg.net/Sessions/2007/Bills/Senate/HTML/S3v2.html. There is also a bill in the House of Representatives, HB77, that proposes a REPS, ncleg.net/Sessions/2007/Bills/House/HTML/H77v1.html.
2. Municipal utilities and electric membership cooperatives also have to meet a REPS, but the requirements are less stringent. Instead of having to meet a 12.5 percent requirement, they only have to meet a 10 percent requirement. Also, they are not required to provide any electricity through renewable sources—it can all be met through energy-efficiency measures. S.3 also does not technically require that utilities meet 5 percent of the REPS through energy efficiency (EE) if they can exceed 7.5 percent for the renewable energy component. However, for all practical purposes, that is the requirement. The legislation was drafted with the understanding that there would be a 5 percent EE requirement. La Capra's analysis of S.3 was based on a 7.5 percent renewable energy component (meaning that 5 percent would be met from EE).
3. La Capra Associates, "Analysis of a Renewable Portfolio Standard for the State of North Carolina," December 2006, p. 48, www.ncuc.commerce.state.nc.us/rps/NC%20RPS%20Report%2012-06.pdf.
4. Only 8 of 27 states that have renewable portfolio standards include energy-efficiency measures in the portfolio. See Database of State Incentives for Renewables and Efficiency (DSIRE) website, "Rules, Regulations, and Policies for Renewable Energy," www.dsireusa.org/summarytables/reg1.cfm?&CurrentPageID=7&EE=1&RE=1.
5. La Capra Associates, "Supplemental Responses to Senate Agricultural Committee Meeting and House Energy and Energy Efficiency Committee Meeting," March 15, 2007.
6. Energy Information Administration, "Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State," www.eia.doe.gov/cneaf/electricity/epm/table5_6_a.html.
7. *Ibid.*
8. La Capra Associates, "10% RPS Scenario with 7.5% Expanded Resources with Co-Firing (Solar and Hog Waste Set-Asides)," Handout at the May 2, 2007 Energy Issues Working Group Meeting.
9. *Op. cit.*, note 5.
10. Discussions with the Utilities Commission.
11. Calculated from Energy Information Administration, "U.S. Average Monthly Bill by Sector, Census, Division, and State," www.eia.doe.gov/cneaf/electricity/esr/table5.xls. By multiplying the number of accounts in each customer class by the average monthly consumption, one is able to compare the proportional consumption of each customer class. The respective proportions of REPS costs paid can be calculated by multiplying the number of accounts in each customer class by the cost caps. To calculate the amounts that would be paid by class if the caps were based on usage, multiply the total cost by the percentage of overall electricity use of the respective customer class.
12. *Op. cit.*, note 8. In 2017, the capitalized costs are estimated to be \$91,935,157 for meeting a 2.5 percent energy efficiency requirement. The capitalized costs were used based on conversation with the Utilities Commission. To determine the costs of the 5 percent requirement, the \$91,935,157 amount was doubled, based on conversations with La Capra.
13. Thomas Tanton, Direct Testimony Before the Georgia Public Service Commission On Behalf of Resource Supply Management, Georgia Public Service Commission Docket No. 24505-U.
14. *Ibid.*
15. *Op. cit.*, note 3, p. 49.
16. There has been some confusion as to whether the costs of achieving savings from energy-efficiency measures are covered by the caps. These authors have received different answers from individuals directly involved in formulating the bill. It appears clear, though, that there is no cap for the costs of energy-efficiency measures—the Utilities Commission, informally, has confirmed this understanding. Section 62-133.7(g)(4), which establishes the caps, allows the recovery of incremental costs only. Incremental costs is defined in Section 62-133.7(g)(1), and expressly excludes costs recovered pursuant to G.S. 62-133.8, which is the cost-recovery section for energy-efficiency measures and demand-side management.
17. *Op. cit.*, note 1.
18. General Assembly of North Carolina, Session 2007, Legislative Fiscal Note for Senate Bill 3, www.ncleg.net/Sessions/2007/FiscalNotes/Senate/PDF/SFN0003v2n1.pdf.
19. *Ibid.*, p. 3.
20. This table in the fiscal note is identified as covering the costs to government as a result of the REPS. However, it does not cover the costs associated with energy-efficiency measures.
21. See Environment North Carolina webpage, "Energy Bill Poised to Clear Senate," www.environmentnorthcarolina.org/newsroom/energy/energy-program-news/energy-bill-poised-to-clear-senate.
22. *Op. cit.*, note 3, at p. 7.
23. *Ibid.*
24. "Protect Electricity Consumers and Existing State Renewable Power Programs: Concerns about a Mandatory Federal Renewable Portfolio Standard," Edison Electric Institute, June 2007, www.eei.org/industry_issues/electricity_policy/state_and_local_policies/rps.pdf.
25. Southeastern Utility Commissioners to Congress: RPS Means Higher Prices for Consumers: Nine SE States Urge Congress to Reject Federal RPS, energy.senate.gov/public/index.cfm?FuseAction=PressReleases.Detail&PressRelease_id=235307&Month=6&Year=2007.
26. S.3 would primarily require wind power and the burning of biomass materials such as wood chips and animal waste. The La Capra study also identified wind and biomass as being the two primary renewable sources of energy if North Carolina were going to meet a 7.5 percent renewable requirement.
27. *Op. cit.*, note 5. In March 15, 2007, testimony to legislative committees, La Capra wrote, "As controversy in North Carolina continues over siting of wind farms in the western mountains, under the Ridge Law, wind development of the scale needed for a 10% REPS [it is now 12.5%] will face some major barriers from community groups."
28. *Op. cit.*, note 3, at p. 20.
29. *Ibid.*, at pp. 69-76.
30. *Op. cit.*, note 5.
31. Phone conversation with Mon-Fen Hong, Consultant, La Capra Associates, June 29, 2007, regarding La Capra analysis of S.3; see also La Capra Associates, note 3, at p. vi, which also assumed wind in the mountains.
32. *Ibid.*; see also La Capra Associates, note 3, p. 33, and note 5.