

Alternative Energy And Energy Efficiency Legislation and the Subsidies that Incentivize Their Application

Patrick VanderJeugd

Introduction

In 2007, the North Carolina General Assembly and Governor Michael J. Easley signed into effect Senate Bill 3 (S. 3). Among other things, the bill introduced Renewable Energy and Energy Efficiency Portfolio Standards (REPS) for North Carolina. The bill's goal is to "promote the development of renewable energy and energy efficiency" by (1) diversifying the energy resources used in North Carolina; (2) improving energy security in North Carolina by using resources within the state; (3) drawing private renewable energy and energy efficiency investors to North Carolina; and (4) improving air quality to energy consumers and citizens in North Carolina.¹ The most recent relevant legal authority on the matter is Senate Bill 75, signed into law on April 28, 2011.² On March 13, 2013, nearly six years after the N.C. General Assembly approved S. 3, Representative Mike Hager, of Rutherford County, proposed House Bill 298 (H.R. 298).³ H.R. 298 was directly aimed at S. 3 and its main purpose was to repeal the REPS established by S. 3.⁴ If H.R. 298 had passed, the variety of requirements for alternative energy efficiency improvements from S. 3 would no longer be in effect. In order to meet the goals in S. 3 North Carolina offers several financial incentives to its taxpayers, both individuals and corporations, that it hopes will encourage the implementation of these renewable energy

¹ N.C. GEN. STAT. § 62-2(a)(10) (2012).

² S. 75, Gen. Assem., 2011 Sess. (N.C. 2011).

³ H.R. 298, Gen. Assem., 2013 Sess. (N.C. 2013).

⁴ Dan Way, *Renewable Energy Standard, Subsidies Targeted in Bill*, CAROLINA JOURNAL NEWS REPORTS (Mar. 18, 2013), available at http://www.carolinajournal.com/exclusives/display_exclusive.html?id=9991

sources and energy efficiency improvements.⁵ These credits come in the form of tax credits that taxpayers can redeem by either investing in renewable energy or energy efficient property. In February of 2013, RTI International (RTI) and La Capra Associates (La Capra) released a report on the effects of S. 3 from 2007-2012 and the anticipated effects of the bill beyond 2012, as well as factors that will both positively and negatively affect the renewable energy and energy efficiency industries in North Carolina.⁶ The study explained that although there will be initial start-up costs to taxpayers as they bear the cost of implementing the renewable energy and energy efficiency improvements, over time utility rate payers will end up spending significantly less on electricity than they would have should the renewable energy and energy efficient improvements not have been made.⁷ Overall, the REPS standards, although they impose some costs on utility ratepayers in North Carolina, will effectuate net benefits to North Carolina by attracting renewable energy and energy efficiency investment from private sources and, long term, lowering electricity utility rates compared to what they would be if the renewable energy and energy efficiency standards were not put into place.⁸

REPS Specifications

Senate Bill 3 specifies the percentage of electricity from different renewable sources that both public utilities and electric membership corporations or municipalities must produce. Public utilities may meet their REPS requirements by: (1) generating electricity from a new renewable energy facility; (2) using a renewable energy resource

⁵ N.C. GEN. STAT. § 105-129.16A (2012).

⁶ Sara Lawrence et al., *The Economic, Utility Portfolio, and Rate Impact of Clean Energy Development in North Carolina*, NC SUSTAINABLE ENERGY ASSOCIATION 1-1 (2013), available at <http://energync.org/assets/files/RTI%20Study%202013.pdf>.

⁷ *Id.* at ES-1.

⁸ *See id.* (showing that REPS spurred about \$1.3 billion in project investment in North Carolina).

to generate electricity at an existing plant that doesn't generate electricity from fossil fuels; (3) reducing energy consumption (only a minority percentage of the requirement may come from this method); (4) purchasing electric power from a new renewable energy facility, in-state or out-of-state, provided that the electricity is delivered to retail electric customers in North Carolina; (5) purchasing renewable energy certificates from in-state or out-of-state new renewable energy facilities; or (6) applying excess electric energy, generated from a new renewable energy facility or saved from installing energy efficiency measures in a given calendar year, to the following year's REPS requirement.⁹ The REPS for public utilities require that by 2015 at least 6% of 2014 NC retail sales must come from any of the above sources, by 2018 at least 10% of 2017 NC retail sales of electric energy must come from any of the above sources, and by 2021 at least 12.5% of 2020 NC retail sales of electric energy must come from any of the above sources.¹⁰

Electric membership corporations and municipalities may meet their REPS requirements by: (1) generating electric power at a new renewable energy facility; (2) reducing energy consumption by implementing demand-side energy management of energy efficiency measures; (3) purchasing electric energy from a renewable energy facility or purchasing up to 30% of its REPS requirement from a hydroelectric power facility; (4) purchasing up to 25% of its REPS requirements from an out-of-state renewable energy facility; (5) purchasing all or part of its requirement from a wholesale electric energy supplier who meets the requirements of this section; or (6) applying excess electric energy, generated from a new renewable energy facility or saved from installing demand-side management or energy efficiency measures in a given calendar year, to the

⁹ N.C. GEN. STAT. § 62-133.8(b)(2) (2012).

¹⁰ § 62-133.8(b)(1).

following year's REPS requirement.¹¹ The REPS for electric membership corporations and municipalities require that by 2015 at least 6% of 2014 NC retail sales must come from any of the above sources and by 2018 at least 10% of 2017 NC retail sales of electric energy must come from any of the above sources.¹²

The REPS for electric energy production from solar sources requires that by 2015 at least 0.14% and by 2018 at least 0.20% of all retail electric power in kilowatt-hours sold to retail electric customers in North Carolina must come from solar sources.¹³ Solar sources that qualify under this requirement include new solar electric facilities and new metered solar thermal energy facilities that use solar hot water, solar absorption cooling, solar dehumidification, solar thermally driven refrigeration, or solar industrial process heat methods.¹⁴

The REPS for electric energy production from swine waste requires that by 2015 at least 0.14% and by 2018 at least 0.20% of all retail electric power in kilowatt-hours sold to retail electric customers in North Carolina must come from swine waste.¹⁵ The REPS for electric energy production from poultry waste requires that by 2014 and for each year after at least 900,000 megawatt-hours of the all electric power sold to retail electric customers in North Carolina must come from poultry waste including wood shavings, straw, rice hulls, or other bedding material.¹⁶ Both of these methods of electric energy production qualify for tax incentives because they use biomass material to create electric energy.¹⁷

¹¹ § 62-133.8(c)(2).

¹² § 62-133.8(c)(1).

¹³ § 62-133.8(d).

¹⁴ *Id.*

¹⁵ § 62-133.8(e).

¹⁶ § 62-133.8(f).

¹⁷ § 105-129.15(f)

Costs to Utility Ratepayers

Senate Bill 3 includes a provision that allows electric power suppliers to recover up to \$1,000,000 per year of their “incremental costs” that they may incur in their efforts to comply with the REPS and to fund research that encourages the development of renewable energy sources, energy efficiency, or improved air quality.¹⁸ Recovery of these costs may only come in the form of annual riders on the power bills of retail customers and limits based on the type of account exist for the dollar amount that may be recovered per year.¹⁹ The maximums for each type of account are also separated by year. For 2012-2014, the maximum amount for residential accounts is \$12.00, for commercial account is \$150.00, and for industrial accounts is \$1,000.00. For calendar year 2015 and years beyond that the maximum amount for residential accounts is \$34.00, for commercial accounts is \$150.00, and for industrial accounts is \$1,000.00.²⁰ Due to this policy, utility ratepayers bear extra costs that do not correspond directly to the amount of electricity they use. However, over the 20-year period for which the REPS are in effect the electricity rates will be lower than they would have been had the renewable energy and energy efficiency measures not been implemented.²¹

Opposition to REPS

House Bill 298 sought to repeal the REPS provisions that were part of S. 3.²² Representative Hager proposed the bill arguing that the REPS were effectively permanent

¹⁸ § 62-133.8(h)(1)(b).

¹⁹ § 62-133.8(h)(4).

²⁰ *Id.*

²¹ Lawrence, *supra* note 6, at 4–10 (2013).

²² John Downey, *Bill to End NC Renewable-Energy Requirements Defeated*, CHARLOTTE BUS. J. (Apr. 24, 2013), available at http://www.bizjournals.com/charlotte/blog/power_city/2013/04/bill-to-end-nc-renewable-energy.html?page=all.

government subsidies for renewable energy and energy efficiency measures.²³ Hager also claimed that the approximately 21,000 job-years that S. 3 created was a misleading number that did not accurately reflect the actual creation of significantly fewer full-time jobs.²⁴ After its proposal, H.R. 298 was sent to several committees and was eventually killed on April 24, 2013, by an 18-13 vote in the North Carolina House Public Utilities Committee.²⁵ In their research report on S. 3 and the future of clean energy development, RTI and La Capra considered the effects that legislation repealing the REPS requirements would have on clean energy development in North Carolina, and although H.R. 298 is not specifically mentioned in the report nor had it been filed when the report was finished, because H.R. 298 sought to repeal the REPS requirements it represents the type of legislation that was identified as a threat to renewable energy and energy efficiency development.²⁶

North Carolina Tax Incentives

In order to meet the REPS requirements, the North Carolina government offers several tax incentives to individuals and corporations for installing renewable energy and energy efficiency property and for producing electric energy from renewable energy sources. The tax incentives are currently offered for both installation of renewable energy sources and for the production of electric energy from renewable energy facilities, although the incentives for the production of electric energy from renewable energy facilities will expire on January 1, 2014.²⁷ The tax incentives are available for taxpayers

²³ *Id.*

²⁴ Way, *supra* note 4.

²⁵ Downey, *supra* note 22.

²⁶ Lawrence, *supra* note 6, at 2–10 (2013) (stating that any state policy change which would repeal REPS is a threat).

²⁷ N.C. GEN. STAT. § 105-129.16D(d) (2012).

who construct, purchase, or lease renewable energy property and place it into service during the tax year in which they wish to claim the tax incentive.²⁸ A taxpayer may claim a tax credit of 35% of the cost of the renewable energy property, excluding any public funds that were used to construct, purchase, or lease the property.²⁹ If the property is leased and the taxpayer has no construction or purchase costs, then the cost will be determined as eight times the net annual rental rate to the taxpayer.³⁰

For each type of renewable energy property there is a limit to the amount of tax credit that can be applied in a given year. The maximum credit allowed for a nonresidential property is \$2,500,000 per installation. For residential property the tax credit limits are: (1) \$1,400 per dwelling unit for solar energy equipment that is used for domestic water heating, (2) \$3,500 per dwelling for solar energy equipment that is used for active space heating, and (3) \$10,500 per installation for any other type of renewable energy property.³¹ The types of renewable energy property that qualify for tax credits include: (1) biomass equipment renewable biomass resources for biofuel production bioethanol methanol, biodiesel, biogas production of methane from agricultural or animal waste, and commercial electrical or thermal generation; (2) hydroelectric generators located at existing dams or waterways; (3) solar energy that uses solar radiation as an alternative for water heating, active space heating and cooling, passive heating, daylighting, generating electricity, or that includes any equipment for collecting, storing, exchanging, conditioning, or converting solar energy into other useful energy forms; and

²⁸ § 105-129.16A.

²⁹ *Id.*

³⁰ *Id.*

³¹ § 105-129.16A(c).

(4) wind equipment that converts wind energy into electricity or mechanical power.³² For residential property all of the tax credits can be applied to a single year's taxes as long as the amount does not exceed 50% of the tax against which the credits are being applied.³³ Unused portions of tax credit that could not be applied to the year in which the property was installed may be carried forward for up to five years past the installation year.³⁴ For all renewable energy and energy efficiency property that is not installed in a single-family dwelling, credit must be taken in five equal installments over five years beginning in the year during which the property is installed.³⁵

Effects of REPS and Tax Incentives

RTI and La Capra published their study for the North Carolina Sustainable Energy Association.³⁶ The report found that North Carolina's clean energy and energy efficiency programs: (1) spurred \$1.4 billion in state wide project investment between 2007 and 2012; (2) contributed about \$1.7 billion to the gross state product between 2007 and 2012; and (3) "created or retained 21,163 job-years from 2007 to 2012."³⁷ According to the report the state renewable energy and energy efficiency policies will not cause any appreciable rate impact to residential, commercial, industrial customers through 2026 and that with the switch to renewable energy facilities and improved energy efficiency there will be about \$173 million in cost savings by 2026.³⁸ In addition, throughout the 20-year

³² § 105-129.15.

³³ § 105-129.17(b).

³⁴ *Id.*

³⁵ § 105-129.16A.

³⁶ Lawrence, *supra* note 6, at i.

³⁷ *Id.* at ES-1.

³⁸ *Id.*

period since clean energy policies were first enacted in North Carolina rates are expected to be lower than they would have been had the clean energy policies not been enacted.³⁹

In assessing the impacts of clean energy development, RTI and La Capra considered the key policy drivers for clean energy in North Carolina examined the “net employment, fiscal, and economic output impacts of clean energy development” in North Carolina and assessed the utility portfolio and ratepayer impacts of the clean energy development.⁴⁰ The REPS requirements from S. 3 and the renewable energy tax credits available through the North Carolina government represent two of the three main policy drivers of clean energy development. The third is the Utility Savings Initiative, which sets guidelines for energy efficiency standards that must be met for various types of government buildings including parts of the UNC system and municipal buildings throughout the state.⁴¹ RTI and La Capra spoke with 14 individual stakeholders in the clean energy development field who represent energy efficient companies, economic developers, investors, or other stakeholders.⁴² The discussion with these people (the stakeholders) yielded strengths and weaknesses of North Carolina’s existing renewable energy and energy efficiency market as well as opportunities and threats to the business climate of clean energy development in North Carolina.⁴³ The established strengths include quality talent in the workforce for developing clean energy, a friendly business climate toward clean energy development, government cooperation at the state level, and an established state presence in energy sectors.⁴⁴ These strengths demonstrate qualities

³⁹ *Id.*

⁴⁰ *Id.* at 1-2 to 1-4.

⁴¹ *Id.* at 2-1.

⁴² *Id.* at 2-6.

⁴³ *Id.* at 2-7.

⁴⁴ *Id.* at 2-8.

that will aid the improvement and expansion of the renewable energy and energy efficiency industry in North Carolina. The weaknesses that correspond to these strengths include insufficient funds to scale products and companies for large-scale implementation, lack of federal policy requiring similar standards, and missing links in the state economic infrastructure such as weak branding and state tax incentive packages compared to those of competitive states like Georgia, Florida, and Tennessee.⁴⁵ By being cognizant of these weaknesses' ability to hinder the renewable energy and energy efficiency industry's growth lawmakers have an opportunity to prevent these weaknesses from negatively affecting North Carolina.⁴⁶ By enacting legislation that aims to reduce the effect of or eliminate these weaknesses, lawmakers can improve the renewable energy and energy efficiency industry's chance to succeed in North Carolina.⁴⁷

Opportunities that exist for clean energy development include the potential for market growth due to the expansion of the global clean energy market and North Carolina niche sector for clean energy such as the solar and biomass industries.⁴⁸ However, the main threats that are listed are potential state policy changes including the repeal of tax credits and REPS and the high upfront costs that come from the initial implementation of renewable energy and energy efficiency measures.⁴⁹ As mentioned before, H.R. 298 sought to do exactly what the report stated as threats to clean energy development: repealing REPS standards. Because H.R. 298 was defeated it is no longer a threat however that does not mean that dismiss the possibility for future legislation that will

⁴⁵ *Id.*

⁴⁶ *Id.* at 2-12.

⁴⁷ *See id.* at 2-11 (public-private partnership will jumpstart the renewable energy and energy efficiency industry so it can survive once the government steps back).

⁴⁸ *Id.* at 2-10.

⁴⁹ *Id.*

threaten clean energy development in North Carolina. A repeal REPS would send unclear signals to regional companies and as a result North Carolina could lose out on potential financial input by those companies if they were to end up moving to or investing in any of the states that North Carolina is competing with for renewable energy and energy efficiency business.⁵⁰

Overall, the 21,163 job-years created between 2007-2012 by implementing the REPS created an average of 4,233 jobs per year, a figure that is anticipated to increase in future years.⁵¹ The economic impact of clean energy can be quantified by the ratio of input dollars to output dollars in the clean energy industry. This ratio for renewable energy projects over the 6-year study period showed that for every \$1 spent on renewable projects, \$1.90 was added to output for North Carolina. For energy efficiency projects over the 6-year study period the report showed that for every \$1 spent on energy efficiency projects, \$1.67 was added to the total output of North Carolina.⁵² Both of these numbers support a conclusion that the REPS positively impact the economy of North Carolina and that investment in renewable energy and energy efficiency results in positive returns. As a result of this conclusion one can infer that support of the REPS is beneficial for North Carolina and that future legislation supporting investment in renewable energy and energy efficiency property and programs could provide further benefit to North Carolina and its citizens.⁵³

⁵⁰ *Id.* at 2-12.

⁵¹ *Id.* 3-11.

⁵² *Id.* 3-12.

⁵³ *Id.* at 3-11 to 3-12 (REPS project rapidly increasing job growth and demonstrate that fiscal input of results in fiscal output at a ratio of up to 1:1.9).

Conclusion

The tax credits offered to individuals and corporations by the North Carolina government incentivize the REPS standards established by S. 3. However the current political climate in North Carolina is not entirely supportive of clean energy development and in order for the REPS requirements to fiscally benefit North Carolina taxpayers the federal and state governments need to establish additional measures such as federal legislation supporting clean energy development and increased short-term state government support for the start-up costs of renewable energy and energy efficiency measures. The REPS have benefitted North Carolina by providing jobs, increasing economic output, and making North Carolina more competitive for business investment as compared to other competitive states in the renewable energy and energy efficiency industry.⁵⁴ These positive effects outweigh the negatives and demonstrate that the REPS should not be repealed as future legislation supporting the private renewable energy and energy efficiency industry until it can sustain itself may save North Carolina's taxpayers money as well as improve the economic condition of the state.

⁵⁴ *Id.*