

The Future of North Carolina Solar: Moving Forward after 2015 Policy Change

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I. Introduction to Renewable Energy

In the past few decades, increased awareness of climate change and a shifting geopolitical landscape has made renewable energy an increasingly important issue. The EPA defines renewable energy as “electricity generated by fuel sources that restore themselves over a short period of time and do not diminish,” and comes from a variety of sources including solar, geothermal, wind, and biomass¹. In addition to obvious environmental benefits, investment in renewable energy also improves economic development through increased spending, jobs, and decreased dependency for energy resources².

II. Renewable Energy in North Carolina

Historically, North Carolina’s energy supply strategy has been dependent on its neighbors for a large percentage of its regular energy needs. The state does not produce or have reserves of fossil fuels such as oil, coal, or natural gas; nor does it have crude oil refinery capacity³. In the past, as much as 28% of the total cost of energy production for the state has been spent importing fossil fuels from other states⁴. Not only is this a large expenditure of state resources, but also has a considerably detrimental impact on the environment. Fortunately, in recent years the state has witnessed the beginnings of a dramatic reversal in its energy supply, as an increasing amount of North Carolina’s energy is being produced in-state.

¹ The Environmental Protection Agency (EPA), *Renewable Energy* (July 7, 2015).
<http://www3.epa.gov/statelocalclimate/state/topics/renewable.html>

² *Id.*

³ Diane Cherry & Shubhayu Saha, *Renewable Energy in North Carolina*, POPULAR GOV’T, Spring/Summer 2008 at 12, <http://iei.ncsu.edu/wp-content/uploads/2013/01/renewableenergync.pdf>.

⁴ *Id.*

In the last decade, North Carolina has made significant developments in renewable energy. The state has shown greater participation in renewable energy production, particularly in the solar energy market. North Carolina recently reached 1 GW of installed capacity, making it the 4th state in the United States to do so⁵. Currently the state is ranked 4th in the nation in solar capacity and 6th in solar power generation⁶. In total, North Carolina has approximately 450 solar businesses, which represents roughly \$2 billion in direct investment and some 4,300 jobs⁷. The majority of clean-energy projects entering the state in the past few years have been solar⁸. The recent boom in the solar industry has been due in large part to legislative initiatives aimed at encouraging growth and investment in the renewable energy sector and decreasing the state's energy dependency⁹.

III. Solar-Friendly Policy in North Carolina

In 2007, the North Carolina General Assembly signed into effect Senate Bill 3, which introduced North Carolina's Renewable Energy and Energy Efficiency Portfolio Standards (REPS)¹⁰. The REPS is the first of this type of environmental legislation in the Southeast, and requires utilities in North Carolina to supply 12.5% of retail electricity sales from renewable energy resources by 2021¹¹. Of that 12.5% renewable energy, 0.2% of total sales must be solar energy¹². The purpose of the bill was to "promote the development of renewable energy and energy efficiency" by diversifying state energy resources, improving energy security, drawing

⁵ Clarke Morrison, *NC Reaches Solar Energy Milestone*, Mountain Xpress (November 13, 2015), <https://mountainx.com/news/nc-reaches-solar-energy-milestone/>

⁶ LUKAS BRUN ET. AL., DUKE CTR. ON GLOBALIZATION, GOVERNANCE, AND COMPETITIVENESS, *THE SOLAR ECONOMY: WIDESPREAD BENEFITS FOR NORTH CAROLINA* (2015), http://www.cggc.duke.edu/pdfs/02152015Duke_CGGC_NCSolarEnergyReport.pdf.

⁷ *Id.*

⁸ Ian Clover, *Solar Power Driving North Carolina's Clean Economy, Study Finds*, PV MAGAZINE (Oct. 10, 2014), http://www.pv-magazine.com/news/details/beitrag/solar-power-driving-north-carolinas-clean-economy--study-finds_100016761/#axzz3GdJikNwU.

⁹ *Id.*

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

¹¹ N.C. GEN. STAT. § 62-133.8 (2007).

¹² *Id.*

private renewable energy and energy efficiency investors to the state, and improving air quality¹³. To meet these standards, the North Carolina Legislature imposes fines for non-compliance with regulations¹⁴. Businesses are also provided with incentives to invest in renewable energy resources through the state's renewable energy tax credit program¹⁵.

The Renewable Energy Investment Tax Credit (REITC) offers tax incentives to North Carolina taxpayers for investments into solar, wind, geothermal, small hydroelectric, biomass, biodiesel, and other renewable energy systems¹⁶. The REITC provides a tax credit of 35% of the cost of renewable energy property constructed, purchased or leased by a taxpayer and placed into service in North Carolina during the taxable year¹⁷. Purchases eligible for the tax credit include the cost of the equipment and associated design, construction, installation less any discounts, rebates, advertising, installation-assistance credits, and name-referral allowances or similar reductions¹⁸. This program has incentivized new solar projects to move into the state, as well as local businesses to begin smaller-scale projects. Companies such as Facebook, Apple, and Google have invested more than \$1 billion in North Carolina solar farms¹⁹. Many local farm owners have also undertaken 'energy efficient' projects by leasing tracts of unused or unprofitable farmland to solar companies for solar-panel arrays²⁰. The benefits of this program can also be seen at a larger scale. In 2014, tax credits for renewable energy claimed by state

¹³ § 62-2(a)(10).

¹⁴ N.C. GEN. STAT. § 62-133.8(d).

¹⁵ N.C. GEN. STAT. § 105-129.16A (2006).

¹⁶ *Id.*

¹⁷ ARTICLE 3B, BUSINESS AND ENERGY TAX CREDITS, N.C. DEP'T OF REVENUE, http://www.dor.state.nc.us/taxes/corporate/3bcredits0708_withsupp.pdf#3 (last visited Jan. 3, 2016).

¹⁸ *Id.*

¹⁹ Sharon McBrayer, *Apple Expanding Again in Catawba County* (March 11, 2015), http://www.hickoryrecord.com/news/apple-expanding-again-in-catawba-county/article_cccb94a4-c834-11e4-8030-fbe78ef968b5.html

²⁰ Ned Barnett, *Barnett: NC Lets Sun Set on Solar Tax Credit*, THE NEWS & OBSERVER (Oct. 10, 2015, 2:29 PM), <http://www.newsobserver.com/opinion/opn-columns-blogs/ned-barnett/article38700429.html#storylink=cpy>.

residents and businesses totaled \$126 million, yet it generated \$717 million in spending²¹. It is estimated that every dollar spent in the tax credit program generates \$1.54 for local and state governments in tax revenue²².

Programs such as the REPS and REITC have fostered the beginnings of a very solar-friendly energy market in the state. The sharp increase in production, coupled with the overall drop in the price of solar equipment, has caused North Carolina's solar energy market to rise to a nationally-recognized level of prosperity. Looking forward, however, the success of this industry is somewhat less certain due to changes in energy policy at both the national and state levels of government.

IV. Changes to North Carolina Solar in 2015

In 2015, policy changes went into effect at the state and federal levels which will likely impact the North Carolina solar industry. In North Carolina, contention over funding for the energy sector placed several renewable energy initiatives at risk. The REPS and REITC were both hotly contested during the finalizations for the 2016 North Carolina State Budget, and the REITC was eventually cut²³. At the national level, the Clean Power Plan (CPP) took effect on December 22, 2015, which will set standards for state-level emission reduction while also encouraging investment in renewables²⁴. The act's ability to do so is undetermined, though, because of state government resistance.

²¹ CREDIT FOR INVESTING IN RENEWABLE ENERGY PROPERTY, YEAR 2014, N.C. DEP'T OF REVENUE (Apr. 29, 2015), http://www.dorn.com/publications/incentives/2015/2_3b_renengprop14.pdf.

²² Rob Schofield, *State Budget Bill is Packed with Bad News for the Environment*, N.C. POLICY WATCH: THE PROGRESSIVE PULSE (Sept. 15, 2015), <http://pulse.ncpolicywatch.org/2015/09/15/state-budget-bill-is-packed-with-bad-news-for-the-environment/>.

²³ *Id.*

²⁴ EPA, *The Clean Power Plan for Existing Power Plants* (November 20, 2015), <http://www.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants>

A. The 2015 North Carolina State Budget

In September 2015, the NC General Assembly finalized the state budget for the 2016 fiscal year²⁵. Despite attempts to either cut or freeze renewable energy requirement at 6%, the state will retain the REPS, along with its requirement that utilities supply 12.5% of retail electricity sales from renewable energy resources by 2021, with 0.2% for solar energy²⁶. This likely won't be the last challenge to the REPS, so protection of this policy will need to remain an active concern.

The REITC was allowed to expire on December 31st, 2015²⁷. The energy policy was set up in 1999 to last through 2015, with the option of renewal²⁸. Earlier last year, there was a legislative effort to extend the tax credit for another two years, which ultimately failed²⁹. The legislature did pass a “Safe Harbor” amendment, which will allow protects that reach certain requirements to retain the tax credit after the REITC expires³⁰. Applications for the extension had to be submitted by October, 2015 and required investors in projects using over 65 MW to show that over 50% of the project was complete by the end of the year, while smaller projects had to show that they were over 80% complete³¹. The North Carolina Department of Revenue received over 200 applications for projects under the Safe Harbor amendment, amounting to roughly \$1 billion in tax credits³².

²⁵ N.C. GEN. STAT. § 62-2(a)(10) (2012).

²⁶ *Id.*

²⁷ David T. Foster III, *End of Energy Tax Credits Simply Bad Business for NC*, THE NEWS & OBSERVER (Sept. 16, 2015, 5:04 PM), <http://www.newsobserver.com/opinion/op-ed/article35483970.html>

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ Herman Trabish, *Nearly \$1B in applications for North Carolina renewable tax credits under Safe Harbor amendment*, Utility Dive (January 7, 2016), <http://www.utilitydive.com/news/nearly-1b-in-applications-for-north-carolina-renewable-tax-credits-under-s/411676/>

³² *Id.*

Opponents of the REITC have suggested that the change will be beneficial in the long run based on the vast resources already invested in the program and the solid solar foundation it has helped create. Between 2007 and 2014, over \$2.6 billion was invested in REITC projects in North Carolina³³. Given the long duration of the program and the significant financial investment already made, it is possible that the industry has received enough support to survive after the program's expiration.

Proponents of the REITC argue, however, that allowing the tax credit to sunset will have a largely negative impact on the state solar market³⁴. One likely effect of the REITC expiration will be a decrease in new investors bringing their solar business into the state, as the tax credit was a large incentive for out-of-state companies³⁵. The largest barriers to the solar energy market will be felt by those wishing to install panels on family homes or small businesses. The upfront cost of solar panels is prohibitive to many home and small business owners and, due to the low cost of electricity in the state, they likely will not pay for themselves in the long-term³⁶. Extending the REITC would have lowered this financial barrier, not just in money saved through tax credits, but also because the cost of solar panels is tied directly to their level of production³⁷. The price of solar technology has fallen by more than 80% since 1980, and will continue to become more affordable if production continues to increase and become more widely accessible³⁸.

³³ *Id.*

³⁴ *See* Schofield, *supra* note 16.

³⁵ *Id.*

³⁶ Siena Kaplan, *Growing Solar in North Carolina*, The Frontier Group (November 2009).

<http://www.frontiergroup.org/sites/default/files/reports/NC-Growing-Solar-in-North-Carolina-text--cover.pdf>

³⁷ *Id.*

³⁸ *Id.*

B. The Clean Power Plan in North Carolina

On June 2, 2014, the EPA proposed the Clean Power Plan (CPP), which went into effect on December 22, 2015 and set the first standards limiting carbon pollution³⁹. The plan will limit 550 million metric tons of carbon dioxide from entering the atmosphere by 2030, and will cut carbon pollution by 30% below 2005 levels⁴⁰. The CPP will also increase renewable energy nationwide, with the EPA anticipating a 30% increase in renewable energy generation by 2030⁴¹. In addition to national goals, the CPP assigns state pollution reduction targets by assessing four readily-available methods for cutting pollution in each state⁴². The four methods used to establish state reduction targets are: increasing efficiency of existing coal-fired power plants; using existing natural gas power plants more effectively by dispatching them before coal plants; increasing renewable energy production, based on a growth rate already being met in the region, and; increasing energy efficiency in homes and buildings⁴³. The states may also develop their own strategies to reach pollution targets, and will submit their proposals by summer of 2016 this year⁴⁴.

North Carolina's state pollution reduction target requires a reduction in CO₂ emissions by 32% from 2012 levels by 2030⁴⁵. This target presents a substantial opportunity to expand clean energy in the state, especially in the solar industry. Compliance with the CPP would make use of the state's significant solar resources and the increased demand for solar power resulting from

³⁹ EPA, *Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power Plants and Emission Standards for Modified and Reconstructed Power Plants* (June 2, 2014).

www2.epa.gov/sites/production/files/2014-06/documents/20140602ria-clean-power-plan.pdf

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.*

⁴³ *Id.*

⁴⁴ Luis Martinez, *North Carolina's Clean Energy Future*, National Resource Defense Council (March 2015).

<http://www.nrdc.org/globalwarming/files/clean-power-plan-state-options-NC.pdf>

⁴⁵ *North Carolina*, E&E PUBLISHING, LLC,

http://www.eenews.net/interactive/clean_power_plan/states/north_carolina (last updated Dec. 16, 2015).

the REPS and REITC⁴⁶. Further, due to the progress already made by utilities in compliance with existing state laws such as the REPS, North Carolina would be on track to reach its target well before 2030⁴⁷. Yet despite the apparent gains to be made from the CPP, compliance has been met with push-back from the state government.

In response to the CPP, the North Carolina House initially voted to direct the state's Department of Energy and Natural Resources to prepare a state plan for compliance⁴⁸. However, this decision was reversed in the State Senate, and another version is currently in development which would limit the State Implementation Plan's ability to cut emissions and improve efficiency in coal-fired plants⁴⁹. This version, Bill 571, challenges the EPA's authority to regulate economic industries such as renewable energy, power plants, and natural gas production under Section 111(d) of the Clean Air Act⁵⁰. State officials also argue that the EPA's requirements should have been based on North Carolina's 2005 emissions rate, rather than its 2012 figures, as it prevents the state from receiving credit for reductions from 2005-2012⁵¹. Bill 571 also contains a provision under Section 4 directing the Secretary of Environment and Natural Resources to sue the EPA in Federal Court for the CPP's alleged inconsistency with federal law⁵². North Carolina is currently one of 24 states suing the EPA for, among other charges, violating Section 111(d) of the Clean Air Act and infringing on state sovereignty by dictating state energy policy⁵³. If the states do not create an acceptable State Implementation Plan, a

⁴⁶ See Martinez, *supra* note 27

⁴⁷ The Southern Environmental Law Center, *EPA's Clean Power Plan Benefits North Carolina*. SouthernEnvironment.org/uploads/words_docs/SELN_Final_North_Carolina_Clean_Power_Plan_Comments.pdf

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² H.B. 571, 2015 Leg., Reg. Sess. (N.C. 2015), <http://www.ncleg.net/Sessions/2015/Bills/House/PDF/H571v3.pdf>.

⁵³ The National Law Review, *Clean Power Plan Litigation/Implementation and Climate Change Update* (January 13, 2016). <http://www.natlawreview.com/article/clean-power-plan-litigationimplementation-and-climate-change-update#sthash.ZPOXyRdh.dpuf>

Federal Implementation Plan will be imposed on the states, until such a time when they can have State Implementation Plan approved⁵⁴.

While the CPP does contain provisions that would ultimately benefit North Carolina's environment as a whole, the current conflict may delay its enactment. The eventual outcome of this dispute is uncertain, but what is certain is that this case will amount to another delay in new improvements or investments in the state's solar industry.

V. Conclusion

The future of solar energy in North Carolina is uncertain due to the shifting policy framework supporting the solar industry. The state has risen to a place of paramount importance in the solar energy transition, largely resulting from state-led legislative efforts. Yet recent changes in funding allocation from the state budget and the state's reception of new federal policies may harm that progress. The loss of the REITC and the lack of solar support evident in North Carolina's CPP strategy do not bode well for future industry investment. Still, the retention of the REPS is promising, and allows for significant support in advancing the solar market in the future. While the exact outcome is hard to determine, solar energy in North Carolina still has a great deal of potential, and these initiatives deserve the legislative support required to ensure their success.

⁵⁴ *Id.*