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THE SOLAR RESURRECTION: KEEPING NEW JERSEY'S SOLAR INDUSTRY ALIVE AT THE EXPENSE OF RATEPAYERS

By Josh Wirtshafter*

I. Introduction

*"It isn't sufficient just to want - you've got to ask yourself what you are going to do to get the things you want."*¹

- Franklin D. Roosevelt

President Barack Obama has made it abundantly clear what he wants: a clean energy economy. In his 2013 Inaugural Address, President Obama proclaimed that:

We cannot cede to other nations the technology that will power new jobs and new industries – we must claim its promise. That is how we will maintain our economic vitality and our national treasure – our forests and waterways; our croplands and snowcapped peaks. That is how we will preserve our planet, commanded to our care by God. That's what will lend meaning to the creed our fathers once declared.²

His plan: update greenhouse gas emission standards, issue grants, loans, and investment tax credits for investing in solar and wind, promote the American Recovery and Reinvestment Act's \$14.5 billion efficiency investment initiative, extend loans to auto manufacturers so that they can build more fuel-efficient cars, and invest tens of billions of dollars in modernizing the electricity grid and funding research and development.³ The list goes on.

President Obama is not the only one interested in the encouraging prospect of a clean energy economy. Several states have implemented clean energy development strategies. New

* Special thanks to Professor Sarah Waldeck, Deputy Attorney General Marisa Slaten, Sonia Bawa and Dr. Michael Kevin Buckley.

¹ THINKEXIST.COM, http://thinkexist.com/quotation/it_isn-t_sufficient_just_to_want-you-ve_got_to/152425.html.

² President Barack Obama, Presidential Inaugural Address (Jan. 21, 2013) available at <http://www.telegraph.co.uk/news/worldnews/barackobama/9816372/Barack-Obama-Inaugural-Address-2013-full-text.html>.

³ Daniel J. Weiss, *President Obama's Clean Energy Progress: How the Top 10 Energy Priorities Fared During His First Term*, CENTER FOR AMERICAN PROGRESS (Jan. 9, 2013), <http://www.americanprogress.org/issues/green/report/2013/01/09/49187/president-obamas-clean-energy-progress-how-the-top-10-energy-priorities-fared-during-his-first-term/>.

Jersey hopped on the renewables bandwagon and quickly claimed hold of the driver's seat—especially in the world of solar photovoltaics. The Solar Energy Industries Association has recognized New Jersey as having one of the fastest-growing solar industries in the country. As of the first quarter in 2012, New Jersey installed more solar photovoltaics than any other state.⁴ Commissioner Joseph L. Fiordaliso of New Jersey Board of Public Utilities (“NJBP”U”), has offered a broad perspective on New Jersey's solar success, explaining that it has ““thrust New Jersey into a leadership position not only in solar, but renewable energy in general.””⁵ Nonetheless, New Jersey's plan is simple: “to keep this good thing going.”⁶

In part, New Jersey's solar industry growth has been due to a combination of state and federal tax incentives. Over the past two years, a combination of the declining cost of solar and an attractive investment environment caused solar installation in New Jersey to outpace its demand among New Jersey utilities.⁷ Amidst a collapse of New Jersey's solar trading market, Governor Chris Christie brought to life the State's “keep keepin’ on” philosophy when he enacted the Solar Resurrection Law.⁸ Its objective is to make room for continued solar investment into the future and create new jobs in the energy industry.⁹

In fashioning the solar industry's resurrection and revitalization, New Jersey regulators were apparently concerned with answering one core question, “how do we resurrect the industry?” The strong showing of bipartisan support for this law leads to the conclusion that it

⁴ *New Jersey Demonstrates Impressive Solar Rankings in 2012*, GETSOLAR.COM (Jan. 4, 2013, 5:40 PM), <http://www.getsolar.com/News/Solar-Energy-Facts/General/New-Jersey-Demonstrates-Impressive-Solar-Rankings-in-2012-800940103>.

⁵ Todd Petty, *BPU commissioner: New Jersey a leader in renewable energy*, NJ.COM (Oct. 26, 2012, 5:07 PM), http://www.nj.com/warrenreporter/index.ssf/2012/10/solar_energy_centenary_college_1.html.

⁶ *New Jersey Solar Bill Gets Christie Signature*, EARTH TECHLING (July 24, 2012), <http://energy.aol.com/2012/07/24/new-jersey-solar-bill-gets-christie-signature>.

⁷ Eric Wesoff, *Gov. Christie Signs New Jersey's Solar “Resurrection Bill”*, GREENTECH SOLAR (July 23, 2012), <http://www.greentechmedia.com/articles/read/New-Jerseys-Solar-Resurrection-Bill-Passes>.

⁸ S. 1925, 1st Sess. (NJ. 2012); *see also* N.J. STAT. ANN. § 48:3-51, 87.

⁹ *Id.*

really did not matter how revitalization was achieved. It was just as apparent that New Jersey regulators were less concerned with answering questions like, “to what extent?” and “at what expense?” and “for how long must this go on?” For some, avoiding these questions is unproblematic because, from the perspective of these people, the cost of having a reliable clean energy industry in New Jersey will always trump having to rely on “dirty energy.” Of course clean energy *is* the responsible way of moving into the future. But sustainable clean energy only results from legislation that is careful and thoughtful.

This Note describes New Jersey’s Solar Resurrection Law, S1925/A2966, examines its consequences, and posits a scheme to redesign the regulation and reimagine the idea of controlling markets through regulation. This task will be accomplished in five steps. First, this Note lays out the history of utility regulation in New Jersey, and traces the rise and fall of the Solar Renewable Energy Credit (“SREC”), which led to the passing of the Solar Resurrection Law. Second, this Note describes, in detail, the Solar Resurrection Law’s five main changes to N.J.S.A. 48:3-87. Third, this Note examines the possible economic realities of the Solar Resurrection Law, which include its probable short-term effects, the extent to which it will cause electricity prices to rise, and its job creation capabilities. Relatedly, this Note dissects two recent studies to shed light on whether the Law will actually balance the SREC market and establish a self-sustaining market. Fourth, this Note draws an analogy between New Jersey’s solar industry and the United States nuclear industry. Finally, this Note suggests two changes to the regulation and argues that New Jersey must be prepared to “give it up” should the market conditions make it appropriate to do so.

II. The History and Background of the Energy Industry in New Jersey

New Jersey’s energy industry was not always open to the free market. Before 1999, both the generation and transmission of electricity was limited to local utilities.¹⁰ In *Munn v. Illinois*, the Supreme Court of the United States recognized that certain industries are “clothed with a public interest” and therefore are subject to an obligation to provide equal service to all.¹¹ The *Munn* Court held that the public utility industry was “clothed with the public interest.”¹² As a result of *Munn*, “[f]irms providing natural gas or electricity to end-use customers have traditionally been regulated as ‘public utilities’—firms that are granted a monopoly franchise in a geographic area in return for a duty to serve the public.”¹³

Economists say that public utilities are granted “a classic ‘natural monopoly.’”¹⁴ A natural monopoly is defined as a single entity that has the capacity to provide goods or services at a lower average cost than if there were two or more entities.¹⁵ Natural monopolies tend to reflect the principle that it is more efficient for one entity to operate a distribution network for a product than many entities.¹⁶ In the context of electric power supply, “it may be advantageous to allow a single firm to provide power service because there are efficiencies to be gained by integrating different market services.”¹⁷

Before 1999, New Jersey’s electric public utilities were vertically integrated, meaning they controlled the both the production and distribution of electricity. Those monopolies were held by Atlantic City Electric Company (ACE), Jersey Central Power and Light (JCP&L), Public

¹⁰ Ashley J. Cerasaro, *The Savings Are Electric*, NEW JERSEY MAGAZINE (Apr. 10, 2012), <http://njmonthly.com/articles/lifestyle/the-savings-are-electric.html>.

¹¹ *Munn v. Illinois*, 94 U.S. 113, 140 (1876).

¹² *Id.*

¹³ FRED BOSSELMAN ET AL., *ENERGY, ECONOMICS AND THE ENVIRONMENT* 53 (3rd ed. 2010).

¹⁴ *Id.*; see WILLIAM W. SHARKEY, *THE ECONOMIC THEORY OF NATURAL MONOPOLY* (1983).

¹⁵ *Id.*

¹⁶ BOSSELMAN, *supra* note 13, at 53.

¹⁷ *Id.*

Service Electric and Gas Company (PSE&G), and Rockland Electric Company (RECO).¹⁸ Each monopoly enjoyed exclusive rights to service a specific region within the State.¹⁹ In 1999, the state deconstructed the supply market to allow for competition.

A. EDECA: The Transformation of New Jersey’s Electric Power Industry

The generation sector of the energy industry would have remained in its regulated state had it not been for the Electric Discount and Energy Competition Act (“EDECA”) N.J.S.A. § 48:3-49 *et seq.* In 1999, New Jersey’s energy industry opened to the free market when the New Jersey Legislature signed EDECA into law.²⁰ EDECA was revolutionary because it deregulated the generation sector²¹ by permitting electricity consumers to choose their own generation supplier. In the meantime, the four investor-owned utilities continued to distribute electricity and were required to reduce rates.²²

Deregulating the generation sector gave consumers the option of buying electricity from either registered Electric Power Suppliers (“EPS”) or Basic Generation Service (“BGS”) providers. EDECA defines an EPS as “a person or entity that is duly licensed . . . to offer and to assume the contractual and legal responsibility to provide electric generation service to retail customers.”²³ EPSs are usually privately owned companies.²⁴ BGS providers, on the other hand, offer “electric generation service . . . to any customer that has not chosen an alternative electric

¹⁸ CHRIS CHRISTIE, 2011 NEW JERSEY ENERGY MASTER PLAN, at 14–15 (N.J. 2011), http://www.nj.gov/emp/docs/pdf/2011_Final_Energy_Master_Plan.pdf.

¹⁹ *Id.* at 15. Figure 1, “EDC Service Territories,” offers a display of each electric public utility’s designated service territories.

²⁰ In the Matter of the Review of Utility Supported Solar Programs, Board Order, Docket No. EO11050311V, May 23, 2012; *see also*, N.J. STAT. ANN. § 48:3-49 *et seq.* (West 2006).

²¹ Cerasaro, *supra* note 10. EDECA “deregulated the generation sector, giving New Jersey electricity customers the right to choose which company would supply them with electric power.” *See also* Stephen A. Pearlman et al., *New Jersey’s SREC Market: A Call to Action*, NEW JERSEY LAW JOURNAL, Feb. 22, 2012.

²² N.J. STAT. ANN. § 48:3-52, 53 (West 2006); *see also* John A. Hoffman et al., *The Electric Discount and Energy Competition Act – A Landmark In The Evolution Toward Retail Choice*, N.J. LAWYER, November 15, 1999, at 13, for a discussion of the details and influence of EDECA on the deregulation of New Jersey’s electric industry.

²³ N.J. STAT. ANN. § 48:3-51.

²⁴ *Cf.* ORANGE & ROCKLAND, <http://www.oru.com/energyandsafety/energychoice/newjersey/njenergysuppliers.html> (last visited Oct. 10, 2012) for a list of privately owned energy suppliers in New Jersey.

power supplier.”²⁵ Essentially, BGS providers become the default providers in New Jersey when a customer does not opt to purchase their electricity supply through an EPS. BGS providers purchase electricity from an auction, known as the BGS auction.²⁶ Some examples of BGS providers include: Citigroup Energy Inc., ConocoPhillips Company, PSE&G Energy Resources & Trade LLC (an affiliate of PSE&G), Hess Corporation, and J.P. Morgan Ventures Energy Corporation.²⁷

EDECA also placed a limit on the kinds and compositions of electricity each registered EPS or BGS provider must sell each Energy Year (“EY”)²⁸ by instituting a Renewable Portfolio Standard (“RPS”). EDECA defines an RPS as a standard that “requires retail electricity suppliers and basic generation service [] providers to include a minimum percentage of qualified renewable energy in the electricity they sell during each one-year period beginning on June 1 and ending on May 31 of the next year known as an Energy Year.”²⁹ The RPS instituted in 1999 required “that a certain percentage of kilowatt hours (kWh) sold in the state must come from Class 1 or Class II renewable energy sources.”³⁰ Traditional solar panels, more technically known as photovoltaics, are categorized as Class I renewable energy sources under EDECA.³¹ The NJBPU was obligated to adopt the proposed RPS, but was authorized to amend the RPS by regulation.³²

With regard to New Jersey’s solar industry, “EDECA set in motion the [NJ]BPU’s authority to promulgate a solar development market based on renewable incentives in the

²⁵ N.J. STAT. ANN. § 48:3-51.

²⁶ *Id.* Refer to the statute’s definitions of “Base residual auction” and “Basic generation service” for a detailed explanation of the auction.

²⁷ *The 2012 BGS Auctions*, Table 1, http://www.bgs-auction.com/documents/2012_BGS_Auction_Results.pdf.

²⁸ N.J. STAT. ANN. § 48:3-51.

²⁹ *Id.*; In the Matter of the Review of Utility Supported Solar Programs, Docket No. EO11050311V.

³⁰ Pearlman, *supra* note 21.

³¹ N.J. STAT. ANN. § 48:3-51.

³² In the Matter of the Review of Utility Supported Solar Programs, Docket No. EO11050311V; *see also*, N.J. STAT. ANN. § 48:3-49.

state.”³³ For instance, in 2004, the NJBPU created an RPS for solar energy that specifically incentivized new solar projects in New Jersey.³⁴ This separate RPS schedule is commonly referred to as New Jersey’s “RPS solar carve out.”³⁵ On May 17, 2006, the NJBPU amended the 1999 RPS to impose increasing requirements for renewable energy until Energy Year 2021.³⁶ The NJBPU’s amendment required that “by EY 2021, 20% of the electricity was to be supplied to New Jersey customers by each supplier and provider from Class I renewable energy systems, and 2.12% of the electricity was to be supplied from solar electric generation systems connected to an electric distribution system serving New Jersey customers.”³⁷ The NJBPU amended the RPS again in 2009 and 2010, increasing the RPS to 22.5% by 2021.³⁸ In 2011, the Christie Administration’s Energy Master Plan even called on the NJBPU to initiate “a reassessment of the state’s current solar programs in light of the economy.”³⁹ Suffice it to say, the solar industry relies on the NJBPU to amend the RPS and solar carve outs for EPSs and BGS providers.

B. How to Satisfy the RPS Requirement and Solar Carve Outs

It is mandatory for Electric Power Suppliers and Basic Generation Service providers to satisfy the RPS set by the NJBPU.⁴⁰ Accordingly, “EPSs and BGS providers can satisfy the RPS in either two ways, or a combination of both.”⁴¹ The first way to satisfy the RPS is to retire Solar

³³ Pearlman, *supra* note 21.

³⁴ *Id.*

³⁵ Lori Bird et al., *Solar Renewable Energy Certificate (SREC) Markets: Status and Trends*, in NATIONAL RENEWABLE ENERGY LABORATORY (NREL), DEP’T OF ENERGY, OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY, Task No. SM10.2464, at 1 (2011); see David M. Hart, *Making, Breaking, and (Partially) Remaking Markets: State Regulation and Photovoltaic Electricity in New Jersey* 12 (Massachusetts Institute of Technology Industrial Performance Center: Energy Innovation, Working Paper No. 09-005, 2009) (“solar ‘carve out’ within the RPS or ‘solar RPS’ became the foundation for subsequent policy-making.”).

³⁶ In the Matter of the Review of Utility Supported Solar Programs, Docket No. EO11050311V.

³⁷ *Id.*

³⁸ *Id.*

³⁹ John McGahren & Nancy M. Christensen, *Will New Jersey’s Solar Industry Continue to Thrive*, N.J.L.J., November 23, 2011.

⁴⁰ N.J. STAT. ANN. § 48:3-87(d).

⁴¹ In the Matter of the Review of Utility Supported Solar Programs, Docket No. EO11050311V.

Renewable Energy Credits (“SRECs”), which can be either generated or purchased.⁴² One “SREC is created for each megawatt-hour (MWh) [or every 1000 kilowatt-hour (kWh)] of electricity generation from solar energy systems.”⁴³ Thus, owners of solar energy systems with grid-connected generators earn one SREC each time their system generates one megawatt-hour of electricity. SRECs are retired when an owner designates that a certain number of SRECs will be used to comply with a RPS, and then transfers the designated SRECs to an electronic retirement account in the tracking system.⁴⁴ Retiring SRECs on the tracking system is just as easy as signing into an online account and clicking a button—much like online trading of stocks.

Once an SREC is generated, its owner can choose to either retire it to satisfy an RPS or sell it.⁴⁵ Retiring SRECs allows the owner of the SREC to satisfy his RPS and solar carve out requirements.⁴⁶ However, not all SRECs are retired by their original owner-generator because not all owners of solar energy systems are subject to an RPS. Homeowners with solar panels on their roofs, for instance, are not typically subject to an RPS. Instead of retiring their SRECs, these owners may then sell them on the electronic tracking system to Electric Power Suppliers and Basic Generation Service providers that are subject to an RPS.⁴⁷

Pursuant to a Board Order in December 2007, the buying and selling of SRECs opened to the free market.⁴⁸ Like stocks, SRECs are traded in a competitive market, where prices fluctuate frequently and significantly.⁴⁹ “New Jersey was the first state to heavily rely on SRECs as a

⁴² *Id.*

⁴³ Bird, *supra* note 35, at 1.

⁴⁴ *Id.* at 5.

⁴⁵ In the Matter of the Review of Utility Supported Solar Programs, Docket No. EO11050311V.

⁴⁶ *Id.*

⁴⁷ SREC Registration Program, NJCLEANENERGY.COM, <http://www.njcleanenergy.com/srec>.

⁴⁸ In the Matter of the Review of Utility Supported Solar Programs, Docket No. EO11050311V. *See* Bird, *supra* note 35, at 2.

⁴⁹ SREC Registration Program, *supra* note 47.

market mechanism to meet its solar carve out.”⁵⁰ Since then, the price of an SREC has become the “primary determinant of a solar developer or homeowner’s ability to recover the costs of installing solar panels.”⁵¹ Thus, SRECs can not only be traded and then retired to satisfy RPS requirements, but they also incentivize solar installation.⁵²

The second way to satisfy the RPS is to pay the Solar Alternative Compliance Payment (“SACP”).⁵³ “Since a supplier or provider has the option of either paying the SACP or obtaining SRECs to comply with the solar RPS [or standard RPS], the amount of the SACP, in practice, becomes the upper limit on the price of an SREC in the market.”⁵⁴ SACP prices act as a ceiling on SREC prices because “obligated entities would not pay more than the level of the [SACP] to acquire SRECs for compliance.”⁵⁵ For example, a utility that has failed to fully comply with the RPS can satisfy its shortfall by paying the SACP for each megawatt-hour missed. This will most likely be more expensive—sometimes far more expensive—than the price of buying SRECs on the free market.⁵⁶ As a result, the higher the alternative compliance payment, the higher the ceiling price of an SREC.⁵⁷ Moreover, steadily declining SACP prices over time help establish stability, certainty, and foreseeability in the market.⁵⁸

C. The Status of SREC Trade Prices in the Recent Past

⁵⁰ Bird, *supra* note 35, at 1.

⁵¹ McGahren, *supra* note 39.

⁵² Bird, *supra* note 35, at 1.

⁵³ In the Matter of the Review of Utility Supported Solar Programs, Docket No. EO11050311V.

⁵⁴ *Id.*

⁵⁵ Bird, *supra* note 35, at 8.

⁵⁶ *Id.*

⁵⁷ Bird, *supra* note 35, at 9. “Prices have been highest in New Jersey because New Jersey’s solar ACP [SACP] of nearly \$700/MWh.”

⁵⁸ *Id.*

From 2005 until the fall of 2011, SREC prices were at their highest. New Jersey's SREC prices have been the highest in the country, ranging from \$400/MWh to about \$650/MWh.⁵⁹ The New Jersey Office of Clean Energy's database on SREC trading statistics indicate that SREC prices began their rise in 2009 when the highest average price hit \$544.85/MWh.⁶⁰ In 2010, the highest average price rose to \$615.50/MWh. Then in 2011, the highest average price reached \$617.21/MWh.⁶¹ During this time frame, SRECs were being traded as high as \$700/MWh.⁶²

However, in 2011, SRECs fell below \$200/MWh.⁶³ The SREC market saw prices as low as \$56/MWh in June and \$63/MWh in March.⁶⁴ Prices continued to tumble into 2012 when SREC spot prices dropped off to about \$150/MWh.⁶⁵ The Office of Clean Energy reported six months where SRECs were sold below \$100/MWh, four of which were sold as low as \$50/MWh.⁶⁶

The early rise and recent fall of SREC prices can be attributed to the great success of the policies put in place by state and federal regulators to encourage solar development, which has resulted in the oversupply of the SREC market. Stefanie A. Brand, Director of the New Jersey Division of Rate Counsel, put it correctly when she said, "our problem is one of success."⁶⁷ To the same point, a senior partner of Solis Partners, Inc. said in an interview, "[i]n New Jersey, we have experienced the 'perfect storm' . . . 'the perfect solar storm.'" He elaborated further, saying

⁵⁹ Bird, *supra* note 35, at 30 (describing the results of Figure 12, where spot pricing indicates prices of \$600+/SREC).

⁶⁰ SREC Pricing, NJCLEANENERGY.COM, <http://www.njcleanenergy.com/renewable-energy/project-activity-reports/srec-pricing/srec-pricing>; *see also* Bird, *supra* note 35, at 30, FN. 12. The New Jersey Office of Clean Energy's ("NJ OCE") database on SREC trading statistics reveals the "Cumulative Weighted Average Price" on a transaction of a single SREC from 2005 to present.

⁶¹ *Id.*

⁶² *Id.*

⁶³ Bird, *supra* note 35, at 30; *see also*, SREC Pricing, *supra* note 60.

⁶⁴ SREC Pricing, *supra* note 60.

⁶⁵ Bird, *supra* note 35, at 35.

⁶⁶ SREC Pricing, *supra* note 60.

⁶⁷ Stefanie A. Brand, Director, New Jersey Div. of Rate Counsel, Remarks at Assembly Telecommunications and Utilities Committee Meeting (Jun. 7, 2012), *in* DIV. OF RATE COUNSEL, at 3.

New Jersey's oversupply was created by the unintended positive consequences of overlapping programs intended to motivate solar generation.⁶⁸ He identified four overlapping programs attributable to New Jersey's oversupplied SREC market: (1) the American Recovery & Reinvestment Act of 2009 that provided a thirty percent investment tax credit on solar installation expenditures;⁶⁹ (2) SACPs that were priced too high to be comparable to that of SRECs; (3) the enticing high trading price of SRECs; and (4) "the decreasing cost of purchasing and installing photovoltaic arrays."⁷⁰ Although these policies and their outcomes served New Jersey's SREC market well from 2007 to the fall of 2011, the oversupplied market has imposed formidable consequences on New Jersey's solar industry moving forward.

D. New Jersey's Oversupplied SREC Market: What Does This Mean Going Forward?

The excess of SRECs generated from the substantial uptick in installations will keep the market in oversupply in the near term, at least.⁷¹ RPS reporting years for 2012 and 2013, "require 442,000 and 596,000 eligible SRECs, respectively."⁷² This many SRECs equate to approximately 368 MW generated for Energy Year 2012 and 496.7 MW for Energy Year 2013.⁷³

By the end of July of 2011, approved solar projects in New Jersey increased from about 900 to

⁶⁸ Cheryl Kaften, *Glut instincts: Is there a solution to the SREC oversupply?*, PV MAGAZINE: PHOTOVOLTAIC MARKETS & TECHNOLOGY (Feb. 10, 2012), http://www.pv-magazine.com/news/details/beitrag/glut-instincts--is-there-a-solution-to-the-srec-oversupply-_100005734/#axzz29ZUS0Jf5.

⁶⁹ American Recovery and Reinvestment Tax Act of 2009, sec. 1603(a)(1)-(2); Cheryl Kaften, *Section 1603: Did the ends (75,000 jobs) justify the means (US\$9.7 billion)?*, PV MAGAZINE: PHOTOVOLTAIC MARKETS & TECHNOLOGY (Apr. 11, 2012), http://www.pv-magazine.com/news/details/beitrag/section-1603--did-the-ends-75-000-jobs-justify-the-means-us97-billion-_100006392/#axzz29ZUS0Jf5 ("Section 1603 (also known as the 1603 Treasury Grant Program) enabled the owner of commercial solar or wind property to receive a 30 percent grant, in lieu of taking the Investment Tax Credit (ITC) or the Production Tax Credit (PTC)"); Uclia Wang, *Hopes for Popular Grant Program Extension Dim in the US*, PV MAGAZINE: PHOTOVOLTAIC MARKETS & TECHNOLOGY (Dec. 6, 2010), http://www.pv-magazine.com/news/details/beitrag/hopes-for-popular-grant-program-extension-dim-in-the-us_100001717/#axzz2K57gvffz (Section 1603 was "meant to offer an alternative to an investment tax credit that is available until 2016"); 26 U.S.C. § 25D(a)(1) (2009), grants a 30% tax credit on the "qualified solar electric property expenditures" installed by a residential homeowner and is available until 2016.

⁷⁰ Kaften, *Glut instincts: Is there a solution to the SREC oversupply?*, *supra* note 68.

⁷¹ Bird, *supra* note 35, at 36.

⁷² *Solar Capacity in the SREC States – August 2012*, SRECTRADE.COM/BLOG, (Sept. 12, 2012), <http://www.srectrade.com/blog/srec-markets/solar-capacity-in-the-srec-states-august-2012>.

⁷³ *Id.* The study conducted by SRECTrade.com assumes all vintage requirements for SRECs have been met.

over 3,700.⁷⁴ As a result, New Jersey had reportedly installed 430 MW as of August 31, 2011.⁷⁵ Then, about one year later, on August 7, 2012, “818.3 MW of solar capacity was registered and eligible to create NJ SRECs,” which equates to about 689,000 SRECs for just Energy Year 2012, where only 442,000 SRECs were required.⁷⁶

The available 689,000 SRECs exceeded the Energy Year 2012 RPS requirement of 442,000 SRECs by about 247,000 SRECs.⁷⁷ In other words, Energy Year 2012 was oversupplied by 247,000 SRECs. Also, recent figures indicate that sixteen percent of the RPS requirement for Energy Year 2013 has already been satisfied, and that does not even include the eligible carryover from Energy Year 2012.⁷⁸

As a result of recent installations and the existing project queue, the SREC Registration Program Status Report for July 2012 indicates that the New Jersey SREC market will, at best, continue to be oversupplied through Energy Year 2013.⁷⁹ A study conducted by Karbone Renewables Research estimates that “there is now adequate capacity to meet RPS requirements in SRECs for the next three and a half years through Energy Year 2015.”⁸⁰ Stated bluntly, legislative action was needed to “prevent an outright collapse in pricing” and the solar industry in New Jersey.⁸¹

⁷⁴ Bird, *supra* note 35, at 36; SREC REGISTRATION PROGRAM STATUS REPORTS (2011), *supra* note 72.

⁷⁵ SREC Pricing, *supra* note 60; Bird, *supra* note 35, at 36 (“In addition to the current capacity expansion, the number of projects registered in New Jersey increased from just over 900 approved registrations at the end of August 2010 to over 3,700 approved projects by the end of July 2011 (representing over 430 MW—which does not include completed projects) (NJ BPU 2011c”). See also N.J. BOARD OF PUBLIC UTILITIES, SREC REGISTRATION PROGRAM STATUS REPORTS (2011), available at <http://www.njcleanenergy.com/renewable-energy/program-activity-reports/program-status-reports/srec-registration-status-reports>.

⁷⁶ *Solar Capacity in the SREC*, *supra* note 72.

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ SREC REGISTRATION PROGRAM STATUS REPORTS, *supra* note 74. This report indicates that as of July 31, 2012, 9,042 solar projects have been installed, which equates to 726,123.6 measured in kilowatts of direct current.

⁸⁰ Alex Anich, *NJ SREC: Oversupply and Uncertainty Prevails*, KARBONE RENEWABLES RESEARCH, March 15, 2012, available at <http://www.karbone.com/wp-content/uploads/2012/02/Karbone-NJ-SREC-Market-Analysis-Mar-15-2012.pdf>.

⁸¹ *Id.*

III. The Solar Resurrection Law

In 2012, New Jersey State Senator Bob Smith and New Jersey Senate President Steve Sweeney sponsored “the Solar Resurrection Bill,” designed to prevent an outright collapse of New Jersey’s solar industry.⁸² Smith explained the problem:

Solar power has become so popular in New Jersey that the supply of solar energy has grown faster than the demand from energy companies – who are required to purchase a minimum amount of their energy from solar supplies each year. . . . Rather than allowing this market’s growth to stagnate and the production of clean and domestically-produced solar energy to slow, we need to continue to supply incentives for New Jerseyans to purchase and install solar equipment, while keeping costs down for electric ratepayers. This bill is a great step in avoiding another bust of New Jersey’s solar market.⁸³

The Bill’s primary goal was to stabilize New Jersey’s SREC market.⁸⁴ Concealed within that objective was the desire to save and promote solar industry jobs.⁸⁵

On July 23, 2012, Governor Chris Christie signed the legislation, S1925/A2966, into law.⁸⁶ The legislation amends N.J.S.A. § 48:3-49 and § 48:3-87. Governor Christie defended his decision, stating:

We pledge to continue to move forward with our commitment to develop these sources to meet the goals that we have in the Energy Master Plan, and to continue to lead the way in solar energy throughout the country. . . . Having renewable energy in our state—having it be a larger part of our portfolio, creating jobs—is not a Republican issue or a Democratic issue; it’s an issue that the people of our state demand that we work on together.⁸⁷

⁸² Keith Zakheim & Caroline Venza, *Solar ‘resurrection bill’ will keep spotlight on vital industry*, NJ.COM, (July 21, 2012, 6:35 AM), http://blog.nj.com/njv_guest_blog/2012/07/solar_resurrection_bill_will_k.html.

⁸³ Alise Roderer, *Smith & Sweeney Bill To Stabilize New Jersey Solar Market Approved In Senate*, POLITICKERNJ.COM, (May 31, 2012, 5:26 PM), <http://www.politickernj.com/57331/smith-sweeney-bill-stabilize-new-jersey-solar-market-approved-senate>.

⁸⁴ *Id.*

⁸⁵ Cheryl Kaften, *New Jersey pushes ‘Restart button’ on SRECs*, PV MAGAZINE: PHOTOVOLTAIC MARKETS & TECHNOLOGY, (July 25, 2012), http://www.pv-magazine.com/news/details/beitrag/new-jersey-pushes-restart-button-on-sreCs_100007861/#axzz27KviYA1C.

⁸⁶ S. 1925, 1st Sess. (NJ. 2012).

⁸⁷ *A Model For Policymakers Across The Country*, STATE OF NEW JERSEY: GOVERNOR CHRIS CHRISTIE, (July 24, 2012), <http://www.state.nj.us/governor/news/news/552012/approved/20120724a.html>; *see also New Jersey pushes ‘Restart button’ on SRECs*, *supra* note 85.

Governor Christie's welcoming stance on solar energy, especially its potential to create jobs, has earned himself the title as a "Solar-Friendly Republican."⁸⁸

What does the Solar Resurrection Law Do?

The Solar Resurrection Law "provides program changes that will minimize future SREC value depression, encourage projects for public contracting units and discourage overbuilding by privately developed utility-scale projects."⁸⁹ The Law amends Title 48 in five respects.

First, the law increases the solar RPS—solar carve out requirements—beginning in Energy Year 2014.⁹⁰ The solar RPS is no longer measured by fixed megawatt hour requirements, but is instead measured by a percentage-based requirement.⁹¹ This means that in each new Energy Year after 2014, EPSs and BGS providers must sell more electric power generated from solar power generators than they did in the previous year. Second, the law sets a new fifteen-year SACP schedule.⁹² Over the fifteen-year period, the SACP price will slowly but steadily decrease by varied increments of \$8, \$7, and \$6.⁹³ In 2014, the SACP is set at \$325, and then in 2028, the SACP is set at \$239.⁹⁴ In comparison to the 2012 spot price for an SREC (which was less than

⁸⁸ Pete Danko, *For NJ's Christie, Solar Isn't A Political Punching Bag*, EARTH TECHLING, (Aug. 8, 2012, 12:23 PM), <http://www.earthtechling.com/2012/08/njs-christie-a-rare-pro-solar-republican>. Christie's enthusiasm for solar power has won himself "a little credit" from liberals in support of solar and renewables alike. Ever since Solyndra, a solar panel manufacturer, entered bankruptcy after defaulting on a \$528 million federal loan, the GOP has said, "solar is the devil's work." By signing S1925/A2966 into law, Christie has seemingly parted with the rhetoric of the Tea Party wing of the GOP and has sided with state government funding of the solar industry because it "has created thousands of jobs." See also, *The Solyndra Mess*, THE NEW YORK TIMES: THE OPINION PAGES, (Nov. 24, 2011), <http://www.nytimes.com/2011/11/25/opinion/the-solyndra-mess.html> (discussing the Republican Party's distasteful response to Solyndra's failure).

⁸⁹ Birdsall Services Group: Engineers & Consultants, *NJ Solar Renewable Energy Certificate (SREC) Program Update*, BSG ENERGY ALERT, (July 2012), <http://www.birdsall.com/files/Energy%20Alert%20-%20NJ%20SREC%20Program%20Update%207-12.pdf>.

⁹⁰ N.J. STAT. ANN. § 48:3-87(d)(3).

⁹¹ *Id.* The solar RPS increases from 2014 to 2028. In 2014, the solar RPS is set for 2.184%, and in 2028, it is set at 4.227%.

⁹² N.J. STAT. ANN. § 48:3-87(j)

⁹³ *Id.*

⁹⁴ *Id.*

\$100), the SACP is still dramatically higher. This price modification is intended to “provide a suitable financial incentive throughout the life of the program.”⁹⁵

In order to manage the overall size of large supply projects, electric solar power generation facilities are capped at 80 MW per year between Energy Years 2014 and 2016.⁹⁶ This means that during Energy Years 2014 and 2016, the aggregate grid supply of all solar electric power generation facilities approved by the NJBPU must not exceed 80 MW on aggregate. Additionally, the total capacity of a single solar electric power generation facility shall not exceed 10 MW.⁹⁷ Fourth, the law extends the SREC trading life from three-years to five-years.⁹⁸ This extended lifespan will allow holders of SRECs a larger window of opportunity to sell its SRECs.

Finally, the Solar Resurrection Law includes net metering aggregation standards for public entities that are both public utility customers and operators of an electric power generation facility.⁹⁹ “Net Metering Aggregation provides public contracting units with the opportunity to install photovoltaic (PV) systems on suitable open space for the purpose of supplying electric energy to that local contracting unit’s facilities and operations.”¹⁰⁰ In other words, net metering aggregation allows “entities to use credits from extra solar energy produced from one building in their community to pay the electric bills for other buildings and facilities in their community.”¹⁰¹

For example, extra energy produced by solar panels on a public school district’s high school can

⁹⁵ Birdsall Services Group: Engineers & Consultants, *supra* note 89.

⁹⁶ N.J. STAT. ANN. § 48:3-87(q). The 80 MW cap does not apply to electric power generation facilities that are “(a) net metered; (b) an on-site generation facility; (c) qualified for virtual net metering aggregation; (d) or certified as being located on a brownfield or a properly closed sanitary landfill facility.” *See also NJ Assem. Comm. State*, 2012 Leg., 215th Sess. (July 7, 2012).

⁹⁷ *Id.*

⁹⁸ N.J. STAT. ANN. § 48:3-87(p). The law states, “SRECs shall be eligible for use in renewable energy portfolio standards compliance in the energy year in which they are generated, and for the following four energy years.”

⁹⁹ N.J. STAT. ANN. § 48:3-87(e). Such qualifying public entities include, a “school district, county, county agency, county authority, municipality, municipal agency, or municipal authority.”

¹⁰⁰ Birdsall Services Group: Engineers & Consultants, *supra* note 89.

¹⁰¹ Roderer, *supra* note 83.

be used to pay the electricity bills of that same school district’s elementary schools. According to New Jersey State Senator Smith, this “[creates] cross town and cross county savings that will be directly reflected in municipal and county budgets.”¹⁰²

IV. The Economic Realities of the Solar Resurrection Law

The Solar Resurrection Law will likely have no effect on balancing the supply and demand of SRECs in the short term for two reasons. First, the Law will not balance the SREC market because Energy Years 2012 and 2013 are already fundamentally oversupplied.¹⁰³ As of April 2012, estimates show that the New Jersey’s 2012 SREC market will be oversupplied by approximately 180,000 SRECs,¹⁰⁴ and the 2013 SREC market will be oversupplied by approximately 496,000 SRECs.¹⁰⁵ Second, “the RPS requirements would be unaffected in 2012 and 2013.”¹⁰⁶ This is primarily due to the fact that the Law was passed after Energy Year 2012 had already ended.¹⁰⁷ Thus, not only are the SREC markets for 2012 and 2013 already oversupplied, but also, the Law will have no effect on balancing the supply and demand of SRECs in the short term—before Energy Year 2014—because it does not aim to balance the market until then.

A. The Solar Resurrection Law Will Likely Cause A Price Hike for Electricity Ratepayers

¹⁰² *Id.*

¹⁰³ Steven Eisenberg, *Proposed New Jersey Solar Bill May Not Solve SREC Woes*, RENEWABLEENERGYWORLD.COM, (May 16, 2012), <http://www.renewableenergyworld.com/rea/blog/post/2012/05/proposed-new-jersey-solar-bill-may-not-solve-srec-woes>.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* (“This estimate takes into consideration the excess SRECs from 2012 and installed capacity estimates through April 2012.”).

¹⁰⁶ *Id.*; N.J. STAT. ANN. § 48:3-87(d)(3). The amendments to this section do not change the solar RPS for Energy Years 2012 and 2013. The revised RPS schedule does not begin until Energy Year 2014.

¹⁰⁷ *Id.*

New Jersey’s Division of Rate Counsel and various popular articles refer to the Solar Resurrection Law as a subsidy program.¹⁰⁸ The Division of Rate Counsel has explained, “New Jersey electric ratepayers face an exposure of up to \$6.1 billion on their bills to pay for the subsidy program over the next 15 years.”¹⁰⁹ In other words, ratepayers will experience a price hike on their electricity bills because, over time, increasingly larger percentages of their electricity will come from the more expensive solar power generation. The Retail Energy Supply Association anticipates that the Law will increase the cost of electricity in New Jersey by \$307 million to \$400 million annually.¹¹⁰ For consumers in all sectors, this means an increase on their electricity bills by 5 percent to 6.5 percent or \$3.51 or \$4.56 per megawatt-hour.¹¹¹

The price hike that ratepayers will experience over the next fifteen years under the Law has its roots in “cost-of-service rate regulation.”¹¹² This concept is “one way of limiting losses associated with a monopolist’s higher price and reduced output.”¹¹³ In other words, rate regulation assures that those firms regulated by the Law—EPSs and BGS providers—continue to earn “what it needs to remain in business.”¹¹⁴ Cost-of-service regulation is based on a “calculation of a utility’s revenue requirements, which represents the total amount a utility needs

¹⁰⁸ Bob Jordan, *Solar Industry To Get a Boost*, ASBURY PARK PRESS, (July 24, 2012), <http://www.app.com/article/20120724/NJNEWS1002/109170013>; Eliot Caroom, *N.J. law to rescue solar subsidy market gets both criticism and acclaim*, NJ.COM, (July 24, 2012, 7:29 AM), http://www.nj.com/business/index.ssf/2012/07/nj_law_to_rescue_solar_subsidy.html; Bruce Shipkowski, *NJ Gov. Christie signs solar subsidy bill*, BLOOMBERG BUSINESSWEEK, (July 23, 2012), <http://www.businessweek.com/ap/2012-07-23/nj-gov-dot-christie-signs-solar-subsidy-bill>.

¹⁰⁹ *Id.*

¹¹⁰ *RESA Calls For Improvements To New Jersey Solar Legislation*, RESA, (June 5, 2012), <http://www.resausa.org/news-events/resa-calls-improvements-new-jersey-solar-legislation>.

¹¹¹ *Id.*

¹¹² BOSSELMAN, *supra* 13, at 65. Cost-of-service rate regulation reflects the total amount that must be collected in rates for the utility to recover its costs and earn a reasonable return. See *infra* note 113 for a definition of the equation used to calculate a utility’s revenue requirements or base rate.

¹¹³ *Id.*

¹¹⁴ *Id.*

from its customers in order to cover its assets.¹¹⁵ By establishing a higher revenue requirement, regulated utilities can set higher cost-of-service rates to “maintain financial integrity.”¹¹⁶ Thus, the Law requires regulated utilities to sell higher percentages of the more expensive solar power and raise utilities’ revenue requirements, which, in turn, causes ratepayer electricity costs to increase.

B. The Solar Resurrection Law Will Surely Create Some Jobs—But How Long Will They Last?

The Christie Administration’s 2011 Energy Master Plan explains that the RPS naturally functions to “create a manufacturing and service industry [for solar panels] in New Jersey.”¹¹⁷ Governor Christie supported his Administration’s analysis of the project when he announced to the media that renewable energy “can be an engine for economic growth and the creation of good-paying jobs.”¹¹⁸ Furthermore, the co-sponsor of the Bill, Senate President Steve Sweeney, confirmed this motive, stating, “[w]e must provide continued job security and growth for the

¹¹⁵ *Id.* The formula for calculating “Revenue Requirements” can be stated as follows: $R = B * r + O$, where “R” is the utility’s revenue requirement, “B” is “the utility’s *rate base*, representing its capital investment in plant and other assets,” “r” is “the *rate of return* regulators allow the utility to earn on its rate base,” and “O” is “the utility’s *operating expenses*, or expenses such as fuel and labor that may vary with its level of production.”

¹¹⁶ See *Permian Basin Area Rate Cases*, 390 U.S. 747, 792 (1968), *aff’g*, *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944). The *Permian* Court held:

[T]he [rate] order may reasonably be expected to maintain financial integrity, attract necessary capital, and fairly compensate investors for the risks they have assumed, and yet provide appropriate protection to the relevant public interests, both existing and foreseeable. *Permian Basin Area Rate Cases*, 390 U.S. at 792.

¹¹⁷ CHRIS CHRISTIE, 2011 NEW JERSEY ENERGY MASTER PLAN, *supra* note 18, at 95. The 2011 EMP expresses the solar industry’s potential for job creation in units of cost per job so that each job can “be expressed as a factor of the State’s gross state product.” The EMP explains:

According to the CEEEP Solar Report, each in-state solar industry job currently nets out to a cost of \$386,866. While the cost per job decreases over time, New Jersey’s current solar policy will create 1,556 net additional in-state jobs by 2020, and decrease New Jersey’s gross state product by approximately \$206 million or 0.04% per job. Each year, New Jersey will create an average of 6.47 additional direct, one time installation jobs and less than 1 (0.19) operations and maintenance jobs per solar MW.

¹¹⁸ Jordan, *supra* note 106.

men and women who are charged with installing these systems on people's rooftops and on solar farms across New Jersey. That is truly what this legislation is about."¹¹⁹

Since New Jersey's solar industry has proven to be "an economic engine for good, well-paying construction and installation jobs," the Law is necessary to prevent this development and job growth from drying up.¹²⁰ Senate President Sweeney cited a recent study conducted by the Mid-Atlantic Solar Energy Industries Association, revealing that there are already more than 10,000 New Jersey citizens employed by the solar industry.¹²¹ He further explained that "by increasing the demand for solar energy by increasing the amount that the energy companies must purchase, the state can continue to encourage development of solar installations and provide new life to the solar job market that includes both manufacturing and installation in New Jersey."¹²² The hope is that by stabilizing New Jersey's solar industry, solar manufacturing and installation will continue to grow and create new jobs in New Jersey.

To the contrary, Brand believes the Solar Resurrection Law may cause New Jersey to lose more jobs than it could create.¹²³ Although she realizes that the Law offers high and exciting opportunities for job growth, Brand warns that its impact on ratepayers could minimize the potential to achieve net job growth.¹²⁴ Even though the Law does decrease the gross amount of subsidies ratepayers would have had to pay absent a change in the regulation, Brand stresses that the cumulative cost is still not insignificant.¹²⁵ Brand explains that "[i]f rising energy costs cause

¹¹⁹ Roderer, *supra* note 83.

¹²⁰ *Id.*

¹²¹ *Id.*

¹²² *Id.*

¹²³ Brand, *supra* note 67.

¹²⁴ *Id.* at 7.

¹²⁵ *Id.*

other businesses to close, you may lose more jobs through these subsidies than you will ever create in the solar industry.”¹²⁶

C. Will it Work?—Steadily Increasing Solar Build Rates Hint At “No”

From 2010 to the present, municipalities, school districts, and homeowners have all been quick to install solar panel systems.¹²⁷ Ever since the Law was signed, application rates have increased.¹²⁸ School districts throughout New Jersey have invested in large-scale solar projects.¹²⁹ New Jersey’s brownfields are being slated with solar panels.¹³⁰ Even MetLife Stadium, located in East Rutherford, New Jersey, and the home field of professional American football teams has installed over 1,350 solar panels on the edge of the stadium’s walls.¹³¹ The result: an increase in solar panel installations.

Karbone Renewables Research concludes that New Jersey’s solar build rate has been so consistently high over the past two years that “[a]ny potential legislative change to the program

¹²⁶ *Id.*

¹²⁷ Rebecca Forand, *N.J. solar market struggling from oversaturation*, NJ.COM, (Dec. 18, 2012, 8:00 AM), http://www.nj.com/gloucester-county/index.ssf/2012/12/solar_market_struggling_from_o.html.

¹²⁸ Tom Johnson, *What’s Ahead for New Jersey’s Solar Sector?*, NJ SPOTLIGHT: ENERGY & ENVIRONMENT, (Oct. 2, 2012), <http://www.njspotlight.com/stories/12/10/01/new-jersey-solar-sector> (“The pace of new applications to install solar systems is extremely high, according to industry observers.”)

¹²⁹ *Id.* (“Any school that issued bonds to pay for solar is almost certainly underwater at this point”). See *New Jersey School Solar Project Makes Headway*, LIVE VIRIDIAN, (Oct. 4, 2012, 4:23:15 PM), <http://www.liveviridian.com/site/id/news/category/Sustainability%20Initiative/article/New%20Jersey%20school%20solar%20project%20makes%20headway.asp>. See, e.g., Joshua Bolkan, *New Jersey District Adds 4.5 MW Solar System*, THE JOURNAL, (Sept. 4, 2012), <http://thejournal.com/articles/2012/09/04/new-jersey-district-adds-4.5-mw-solar-system.aspx>; Fran Hardy, *Sparta ed board OKs solar project*, THE SPARTA INDEPENDENT, (Sept 26, 2012, 2:30 PM), [http://www.spartaindependent.com/apps/pbcs.dll/article?AID=/20120926/NEWS01/120929948/0/MILESTONES02/Sparta-ed-board-OKs-solar-project; Clearview Seeks Approval on \\$1.3M Solar Panels](http://www.spartaindependent.com/apps/pbcs.dll/article?AID=/20120926/NEWS01/120929948/0/MILESTONES02/Sparta-ed-board-OKs-solar-project; Clearview Seeks Approval on $1.3M Solar Panels), SOLAR WORKS NJ, <http://www.solarworksnj.com/news.cfm?newsid=32>.

¹³⁰ See, e.g., Tom Johnson, *PSE&G To Build New Solar Farm on Hackensack Brownfield: Utility seeks approval for \$883M investment to increase solar capacity in New Jersey*, NJ SPOTLIGHT: ENERGY & ENVIRONMENT, (Aug. 1, 2012), <http://www.njspotlight.com/stories/12/0731/2218/>.

¹³¹ *Are You Ready For Some (Solar-Powered) Football*, GETSOLAR.COM, (Aug. 27, 2012, 8:53 AM), [http://www.getsolar.com/News/Solar-Energy-Facts/General/Are-You-Ready-For-Some-\(Solar-Powered\)-Football-800849225](http://www.getsolar.com/News/Solar-Energy-Facts/General/Are-You-Ready-For-Some-(Solar-Powered)-Football-800849225).

will still likely result in targets that *require significantly lowered build rates.*¹³² In other words, even legislation intending to balance New Jersey’s SREC market, like the Solar Resurrection Law, will most likely not work unless the state experiences a decrease in solar installations.

A technical study conducted by SRECTrade, Inc. demonstrates that the Solar Resurrection Law fails to take into account that exact fact: that new legislation will “require significantly lowered build rates.”¹³³ To begin, SRECTrade reiterates—just as Karbone concludes—that if New Jersey is to ever see an undersupplied SREC market again, then the rate of solar installation must slow down.¹³⁴ SRECTrade speculated as to whether New Jersey’s future SREC market will be under or oversupplied. It did so by conducting three case studies, which compared three variations on New Jersey’s current average build rate to the Law’s new RPS requirements.¹³⁵ The first case “assumes future build [rates] continues at half of the last twelve month (LTM) average rate, 38.6 MW/month through May 31, 2012.”¹³⁶ The second case

¹³² Anich, *supra* note 80 (emphasis added). The study indicates that the average monthly build rate in New Jersey for Energy Year 2010 was 6.8 MW and for Energy Year 2011 grew to 14.5 MW. Given these rates, “to enable for market growth of 8MW, a 75% contraction from average build rates over the past year, the RPS target would need to increase to 1.5M SRECs in 2014.”

¹³³ *Id.*

¹³⁴ *A Break in the Clouds? – NJ Legislature Passes S1925/A2966: Oversupply Likely Through at Least 2014, Possibly Longer – What Does This Mean For the Market Moving Forward?*, SRECTRADE.COM/BLOG, (June 26, 2012), <http://www.srectrade.com/blog/srec/srec-markets/new-jersey>.

¹³⁵ *Id.* SRECTrade conducts an analysis of several Tables, which “[assume] no new additional capacity is installed after the NJ Office of Clean Energy’s May 31, 2012 capacity estimates.” The study uses the “Last 12 Month Average Installed MW/Month” to represent New Jersey’s variable base build rate, which is 462.7 MW/Month. In total, the study conducts three case studies: Case 1 assumes the current build rate decreases by half; Case 2 assumes the current build rate perpetuates; and Case 3 assumes the current build rate increases by one-and-a-half times. Each case study covers Energy Years 2012 through 2017, but only applied the variable build rates to Energy Years 2013 through 2017. The way the study works is that the variable build rate, representing “MW Added During Year,” is added to the 2013 “Beginning Balance (MW)” and the sum of those two numbers equals the “Ending Balance (MW).” The “Ending Balance” for EY 2013 becomes the “Beginning Balance” for EY 2014. Then, the variable build rate will be added to the “Beginning Balance” for EY 2014, which sum equals the “Ending Balance” for EY 2014. This process is repeated until EY 2017.

Once those three case studies are complete through 2017, the calculations that are measured in units of megawatts (MW) are converted to “Estimated SRECs Produced” according to the number of MWs indicated. The study is then re-conducted to show the “SREC Forecast v. S1925/A2966 Est[imated] Req[uirements]” measured in units of SRECs.

¹³⁶ *Id.*

“assumes the market continues to build at its LTM average,” 462.7 MW/month.¹³⁷ The third and final case “assumes install rates grow adding 1.5x the LTM average rate,” equaling 694.0 MW/month.¹³⁸

The results of the study indicate as follows:

If installation rates are able to decrease to half of the LTM average rate, the market will see a slight under supply beginning in 2014. Cases in which the market continues at current rates or increase above current monthly capacity installed show substantial oversupply in each of the periods forecast.¹³⁹

SRECTrade’s study concludes that the Solar Resurrection Law does not allow for an increased build rate if the increased RPS is to balance the supply and demand of SRECs.¹⁴⁰ The Law can be described as a quick fix that “merely helps address the oversupply by increasing the near term requirements and putting some limitations on larger scale solar projects.”¹⁴¹ Thus, SRECTrade makes clear that the Law’s new RPS requirements will not necessarily bring the market back into undersupply.¹⁴²

Despite the fact that the Karbone and SRECTrade studies shed doubt on the Solar Resurrection Law’s ability to balance New Jersey’s SREC market because of perpetually high build rates, there is reason to believe that recent build rates are temporarily exaggerated and may subside. Karbone explained that the 2011 average monthly build rates used in its study—similar

¹³⁷ *Id.*

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ *A Break in the Clouds?*, *supra* note 134. This site provides solar technology applications, hosts a monthly SREC auction, conducts technical and market research, and tracks SREC spot pricing. *See generally* Bird, *supra* note 35, at 5, 6, 11, 29, 30, 36. National Renewable Energy Laboratory (NREL) is the national laboratory of the U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, operated by the Alliance for Sustainable Energy, LLC. NREL cites to SRECTrade.com/blog to gather information and charts. *See also, About SRECTrade, Inc.*, RENEWABLEENERGYWORLD.COM, <http://www.renewableenergyworld.com/rea/partner/srectrade-com/about>. “About SRECTrade, Inc.” describes the corporation’s history, current ventures, and services on the main webpage of the Renewable Energy World Conference Expo, which is recognized in the solar industry as the leading platform for business networking and innovative development in renewable energy. SRECTrade, Inc. is one of its participating members.

¹⁴¹ *Id.*

¹⁴² *Id.*

to the ones used in the SRECTrade study—may have been exaggerated as a result of “decreasing costs of solar panels and increased investment activity leading up to the expiry [of] the 1603 US Federal Treasury Cash Grant.”¹⁴³ For instance, the average price of a solar panel system fell 17.2%, and the price of one solar panel until declined 47 percent in about one year (as of June 2012).¹⁴⁴ Another reason why the build rates may be inflated is because before people knew whether Congress was going to allow Section 1603 to expire at the end of 2011—which it eventually did—there was a rush to install.¹⁴⁵ Now that Congress allowed Section 1603 to expire and many of its remaining “safe harbor initiatives are well on their way to completion,”¹⁴⁶ recent average build rates may decrease.

V. The Path of New Jersey’s Solar Industry: A Parallel To The US Nuclear Power Industry — Where Ratepayer Subsidies Are A “Must”

The rhetoric of temporariness and immediacy has been utilized to support the Solar Resurrection Law. Law sponsor Assemblyman Upendra Chivukula has said, “[i]t [the Law] will stop the bleeding.”¹⁴⁷ Head of the Mid-Atlantic Solar Energy Industries Association has stated, “[r]ight now, it’s an airplane with one wing, and we’re going to work very hard to build that other wing. . . . There has to be active control in order to prevent a recurrence of this [SREC market collapse] in the future . . . to us, not having it [the Law] is suicide.”¹⁴⁸ Accordingly, it

¹⁴³ Anich, *supra* note 80; *A Break in the Clouds?*, *supra* note 134. “We would naturally expect to see this [undersupply] take place given the removal of certain federal incentives and a decline in SREC prices. . . .” *See generally* American Recovery and Reinvestment Tax Act of 2009, sec. 1603(a)(1)-(2); *Recovery Act: 1603 Program: Payments for Specified Energy Property in Lieu of Tax Credits*, U.S. DEPARTMENT OF THE TREASURY, <http://www.treasury.gov/initiatives/recovery/Pages/1603.aspx> (The purpose of the 1603 payment is to reimburse eligible applicants for a portion of the cost of installing specified energy property used in a trade or business or for the production of income.”).

¹⁴⁴ Cheryl Kaften, *In ‘burst of energy,’ New Jersey Outshines California*, PV MAGAZINE: PHOTOVOLTAIC MARKETS & TECHNOLOGY, (June 15, 2012), http://www.pv-magazine.com/news/details/beitrag/in-burst-of-energy--new-jersey-outshines-california_100007365/#axzz2AB7j2ukq.

¹⁴⁵ Wang, *supra* note 69. (Section 1603 was “meant to offer an alternative to an investment tax credit that is available until 2016”).

¹⁴⁶ *In ‘burst of energy,’ New Jersey Outshines California*, *supra* note 144.

¹⁴⁷ Caroom, *supra* note 108.

¹⁴⁸ *Id.*

appears as though the Law was never meant to implement a permanent solution to New Jersey’s solar industry crisis. Without a permanent solution, ratepayer subsidies will likely continue into perpetuity, thereby exposing ratepayers to continued increased costs and risks.

Not surprising, however, a similar rhetoric has been used for the past fifty years in the nuclear industry. Time and time again in the nuclear industry, subsidies have been said to be “only temporary, a short-term stimulus so the industry could work through early technical hurdles that prevented economical reactor operation.”¹⁴⁹ At one point very early on in the inception of nuclear power, a General Electric advertisement from 1954 assured the public, “[i]n five years—certainly within ten,’ civilian reactors would be ‘privately financed, built without government subsidy.’”¹⁵⁰ However, even after fifty years of ongoing subsidies failed to attract new nuclear investment, “an array of new subsidies was rolled out during the past decade.”¹⁵¹ Despite being coined as “new subsidies,” they aimed to achieve the same goals as their old ones—“to reduce the private cost of capital for new nuclear reactors” and to shift the long-term risks and costs away from investors.¹⁵²

A study written by Doug Koplow of Earth Track, Inc. on behalf of the Union of Concerned Scientists (“UCS”), and titled, “NUCLEAR POWER: Still Not Viable without Subsidies,” explores the consequences of these “new subsidies.”¹⁵³ Koplow’s thesis, at its most basic, argues that the nuclear industry’s recent call to Congress for new subsidies “would only further increase the taxpayer’s tab for nuclear power while shifting even more of the risks onto the public.”¹⁵⁴ As part of his conclusion, the study recommends that public subsidization be

¹⁴⁹ Doug Koplow, *Nuclear Power: Still Not Viable without Subsidies*, UNION OF CONCERNED SCIENTISTS, at 1, http://www.ucsusa.org/assets/documents/nuclear_power/nuclear_subsidies_report.pdf.

¹⁵⁰ *Id.*

¹⁵¹ Koplow, *supra* note 149, at 3.

¹⁵² *Id.*

¹⁵³ *See generally* Koplow, *supra* note 149.

¹⁵⁴ Koplow, *supra* note 149, at 2.

reduced and that large nuclear corporations invest in new methods that reduce risk and increase efficiency.¹⁵⁵ Koplow explains:

They [public subsidies] should not be expanded to cover more generating capacity than current government policies allow, nor should new categories of subsidies be created. Doing so would make the U.S. taxpayer responsible for considerable additional costs and economic risks—risks that should be borne by the industry. . . .

. . . .

Federal involvement in markets should instead focus on encouraging firms involved in nuclear power—some of the largest corporations in the world—to create new models for internal risk pooling and to develop advanced power contracts that enable high-risk projects to move forward without additional taxpayer risk.¹⁵⁶

Instead of “pinning its hopes on a new wave of taxpayer subsidies to prop up” the industry, industry players should rework their business models “to more effectively manage and internalize [their] operations and construction risks.”¹⁵⁷

In general, Koplow’s study evidences a case where a renewable energy industry experienced early hiccups and shortfalls, relied on ratepayer subsidies to save the industry, and where those subsidies only buttressed that industry in the short-term, more subsidies were put in place. As this pattern repeated itself over time, the nuclear industry became unviable without ratepayer subsidies. Though the nuclear industry has prevailed, it only does so at the ever-increasing expense of the ratepayer. Like the “earlier subsidies” in the nuclear industry, the Solar Resurrection Law may represent the beginning of a long line of ratepayer subsidies used to temporarily fix New Jersey’s solar industry. Before long, New Jersey’s solar industry might prove unviable, too.

VI. Conclusion: There Are No Easy Answers Or Perfect Solutions

¹⁵⁵ *Id.* at 110.

¹⁵⁶ *Id.*

¹⁵⁷ *Id.* at 9.

As mentioned above, Assemblyman Chivukula believes the Solar Resurrection Law will only “stop the bleeding.”¹⁵⁸ The Law is a band-aid—a well-intentioned effort to balance the supply and demand of the SREC trade market, but an effort that falls short because a more demanding RPS requirement schedule is required to cure the ailing market. The government admits it will make no promises that such a cure will be provided. Rather, Governor Christie intends to address the problem one step at a time.¹⁵⁹ And then, only if and when there becomes a “demonstrable need” for solar energy will the government bulk up the regulation.¹⁶⁰ As N.J.S.A. 48:3-87 currently stands, however, New Jersey ratepayers and solar investors should not be so optimistic about escaping the strains of an oversupplied SREC market any time soon.

Certainly, there are no easy answers and no perfect alternatives. But if New Jersey lawmakers want to actually balance supply and demand in the SREC trade market and establish the groundwork for a long-lasting and self-sustaining New Jersey solar industry, then they should redesign N.J.S.A. 48:3-87 in two ways.

First, lawmakers should increase the RPS schedule to a higher number or percentage requirement in order to actually balance the supply and demand of SRECs. As demonstrated by both the Karbone and SRECTrade Blog studies, the SREC market will remain in oversupply under the Solar Resurrection Law.¹⁶¹ The principal reason lies in the fact that the new RPS schedule does not appropriately take into account the aggregate SREC capacity of the current oversupply, and the anticipated SRECs from already existing, pending, and future solar panel

¹⁵⁸ Caroom, *supra* note 108.

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ Anich, *supra* note 80; *A Break in the Clouds?*, *supra* note 134.

systems.¹⁶² Thus, the RPS must be increased to fight against the increasing aggregate of available SRECs.

To determine what the RPS requirement should be, lawmakers should aggregate the anticipated number of SRECs available in both the short and long terms. In calculating the short-term sum, lawmakers should calculate the estimated sum of (1) the current oversupply of SRECs from the present year, (2) the anticipated SRECs from newly installed solar panel systems, and (3) the anticipated SRECs from solar panel systems pending final approval and installation in the current year. Then, in calculating the sum of SRECs in the long-term, lawmakers should evaluate build rate patterns to gauge, with confidence, the number of SRECs that will be generated from solar panel systems in future years. It is not until lawmakers have a clear idea of how many SRECs will be on the market in the coming years that they can begin to redesign an appropriate RPS requirement schedule that does not over or undershoot New Jersey's SREC supply market.

Second, lawmakers should establish a definitive phase-out period for the RPS requirement schedule. In its present construction, the Law implements an RPS schedule that gradually increases until 2028, and has no built-in phase-out period. Instituting an RPS schedule without an established phase-out period—meaning, without an actual end—is not only dangerously expensive, but also is in conflict with the notion of the free-market. To the first point, a phase-out period is necessary because the longer ratepayer subsidies buttress New Jersey's solar industry through an infinite RPS schedule—requiring utilities to purchase more expensive energy that it would not otherwise purchase—the longer regulated utilities will impose

¹⁶² Peter J. Fontaine & Ira G. Megdal, *United States: New Jersey Struggles With Implementation of Solar Law*, MONDAQ: ENERGY AND NATURAL RESOURCES, (Dec. 3, 2012), <http://www.mondaq.com/unitedstates/x/209384/Energy+Law/New+Jersey+Struggles+With+Implementation+Of+Solar+Law>.

inflated electricity costs.¹⁶³ Brand testified to this point, saying that the Solar Resurrection Law’s financial effect on ratepayers goes too far.¹⁶⁴ She explained that the ratepayer subsidy was only meant to “help jump-start the market, not sustain it forever.”¹⁶⁵ Setting the solar RPS schedules until 2028, without a conceivable end, appears “to contemplate permanent ratepayer subsidies for this industry”¹⁶⁶ and permanently inflated electricity costs.

In retrospect, the Solar Resurrection Law freezes the market for the sake of protecting people’s investments in solar against the fluctuations and instability of free markets. New Jersey lawmakers—aside from obviously wanting to establish a self-sustaining solar industry—are very concerned about pulling the rug out from underneath new solar investors. Brand plainly states that “we must reject this concept that everyone must be made whole.”¹⁶⁷ Of course solar investors “would love to have an assured level of demand for their products,” or, in this case, SRECs, and be able “to get the Legislature to increase that demand to make their businesses healthier.”¹⁶⁸ But because people should not have that option in a free capital market—at least not in perpetuity—businesses must be made to operate more efficiently or produce a better product.¹⁶⁹ Those who are without a market to which they can sell their SRECs may have to wait because, as Brand declares, and as this Note promotes, “at some point the industry will have to survive without ratepayer subsidies.”¹⁷⁰

The Solar Resurrection Law rightly recognizes that a government cannot know when the time will be right to begin phasing out the RPS. However, the Law is flawed to the extent that it does not establish quantifiable or non-quantifiable benchmarks that, when met, will signal the

¹⁶³ *Permian Basin Area Rate Cases*, *supra* note 116.

¹⁶⁴ Brand, *supra* note 67, at 3.

¹⁶⁵ *Id.*

¹⁶⁶ *Id.*

¹⁶⁷ Brand, *supra* note 67, at 4.

¹⁶⁸ *Id.*

¹⁶⁹ *Id.* at 5.

¹⁷⁰ *Id.* at 3.

phase-out period. In revising the Law, the government should establish such benchmarks. One quantifiable benchmark should be an average SREC spot price range that persists for a substantial period of time. Another should be a record of stable and reasonably affordable electricity costs. One important non-quantifiable benchmark could be a sufficient evidentiary finding that—by survey, spot market pricing, etc.—society has come to rely on solar energy to the extent that it is a reasonably necessary part of New Jersey’s renewable energy portfolio.

Finally, in hoping to balance the SREC market and establish a self-sustaining solar industry, the government should also be willing to recognize that market regulation may just not work. To “give it up” may be the smartest thing to do, in terms of cost effectiveness. Many factions of people throughout the country already think that solar energy is too expensive to become a viable energy source in our country without perpetual subsidies.¹⁷¹ Although now—while the industry is young and malleable—may be the best time to force the solar industry into existence, later events may prove that solar is unviable. For instance, should hydraulic fracturing take hold in the Marcellus Shale, namely in Pennsylvania and New York, natural gas prices would drop through the floor. Under such a situation, it would be unwise for New Jersey to continue to require its utilities to purchase the more expensive solar energy over the cheaper natural gas. The economic consequences would be unreasonably burdensome for ratepayers.

The Solar Resurrection Law is not altogether a complete failure, however. It should be commended for supporting clean energy. Undeniably, it is the way of the future. The Law does well to cater to those people who believe the need for clean energy is so immediate that it should

¹⁷¹ Michael C. Lynch, *Solar Power Fails to Turn the Lights On*, U.S. NEWS: ON ENERGY, (July 12, 2012), <http://www.usnews.com/opinion/blogs/on-energy/2012/07/12/solar-power-fails-to-turn-the-lights-on>; *contra* Jeff Brady, *Solar Panels Compete With Cheap Natural Gas*, NATIONAL PUBLIC RADIO, (Jan. 5, 2012, 12:01 AM), <http://www.npr.org/2012/01/05/144526652/solar-panels-compete-with-cheap-natural-gas>.

be sought, irrespective of the cost. Although, at this point in time, New Jersey's grand solar ambitious may be within reach, they are ever so slightly beyond New Jersey's grasp.

If the New Jersey government wants to actually stabilize its SREC market, establish a long-lasting solar energy industry within the State, and protect ratepayers from lifetimes of potentially inflated energy costs, then it should retool the Solar Resurrection Law. First, to actually balance the supply and demand of SRECs, New Jersey lawmakers should increase the RPS requirement schedule in order to counteract the increasing solar build rates. Second, New Jersey lawmakers should couple the increased RPS requirement schedule with a definitive phase-out period. The phase-out period should depend on both quantifiable and non-quantifiable benchmarks that will indicate when the free market can sustain the solar industry without the RPS's crutch. Finally, if a revised RPS schedule still cannot keep up with the build rate or, for some other reason, solar subsidies appear to continue on its current track into perpetuity, then the New Jersey government should be willing to abandon its solar investments for the sake of preserving ratepayer integrity.