

Renewables Portfolio Standards: The Key to Advancing Renewable Energy

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Overview of RPS Programs

What do the states with the most successful renewable energy programs have in common? The answer is clear: Renewables Portfolio Standards (RPS), also known as Renewable Energy Standards. State RPS programs require electricity supply companies to either (1) provide a percentage of energy sales, calculated in megawatt hours (MWhs), or installed capacity, calculated in megawatts (MWs), from renewable energy sources (such as wind, solar, biomass, and geothermal), or (2) pay a predetermined penalty. The required percentages increase incrementally on an annual basis, beginning from a base year, until an ultimate RPS target is reached.

Renewable Energy Credits or Certificates (RECs) are at the heart of all effective RPS programs. A REC is tradable documentation that a specific amount of electricity has been generated by a renewable energy source. Electricity supply companies are required to show compliance with RPS requirements by demonstrating that they have supported an amount of renewable energy generation equivalent to a set percentage of their total annual sales in kilowatt-hours (kWhs). Electricity supply companies must demonstrate such compliance by taking ownership of a specific number of RECs, either through generating RECs from their own renewable energy projects or purchasing them from renewable energy sources owned by others.

For example, if the RPS target is set at 10 percent for a specific year, and an electricity supply company sells 200,000 kWhs or electricity in that year, the company would need to possess 20,000 RECs at the end of that year. If the electricity supply company generates 10,000 RECs from its own renewable energy projects, then it would be required to purchase 10,000 RECs from another electricity supply company or from renewable energy projects owned by third parties, such as governments and private companies.

If electricity supply companies cannot demonstrate compliance with an RPS they must pay a predetermined penalty for each REC they fail to generate or otherwise purchase. This predetermined penalty structure helps set a maximum market price for RECs. Electricity supply companies are faced with the simple choice of paying a predetermined penalty of \$X, or purchasing a REC for \$Y. Provided a REC is less than the predetermined penalty, the choice for electric supply companies is relatively easy. The need to purchase RECs and avoid predetermined penalties provides a stable long-term source of electric supply company financing for third parties who wish to develop renewable energy projects.

Without RPS programs and RECs, many renewable energy projects could only be certain of receiving a 30 percent federal Investment Tax Credit (ITC)¹ and a federal Modified Accelerated Cost Recovery System (MACRS) advanced depreciation that allows for a 5-year advanced depreciation on 25-year assets.² While these incentives are significant, they pale in comparison to the value added by RECs required under several states' RPS programs. When RECs are combined with federal tax benefits (i.e., the 30 percent ITC and 5-year MACRS advanced depreciation), the economic viability of many renewable energy projects significantly increases.

RPS programs vary from state to state. Although there is currently no federal policy, the U.S. Congress has been considering federal level RPS requirements. The American Clean Energy Leadership Act was reported out of committee in July 2009 by the Senate Committee on Energy & Natural Resources and includes a Renewable Electricity Standard that calls for 3 percent of U.S. electrical generation to come from non-hydro renewable forms of energy by 2011-2013.³

Thirty-one states and the District of Columbia currently have some form of RPS in place. These RPS states include⁴:

State	Final Target RPS
California	33 % by 2020
Arizona	15 % by 2025
Pennsylvania	18 % by 2020-2021
New York	24 % by 2013

New Jersey's RPS Program; Focus on Solar Energy

In New Jersey renewable energy is regulated by the New Jersey Board of Public Utilities (NJBPU or the Board). Pursuant to New Jersey's Electric Discount and Energy Competition

Act (EDEC),⁵ NJBPU has adopted RPS regulations⁶ that are among the most aggressive RPS in the nation, requiring New Jersey electricity supply companies to produce 22.5 percent of their electricity from renewable energy sources by 2021.

Solar Renewable Energy Certificates (SRECs)

New Jersey's aggressive approach to renewable energy development is clearly revealed in the solar electric generation portion of its RPS, which requires electricity supply companies to generate 2.12 percent of the 22.5 percent 2021 renewable portfolio target from solar energy sources. This amounts to an estimated 1,600 MW of energy.⁷ To comply with the solar electric generation portion of New Jersey's RPS regulations, electricity supply companies obtain and use Solar Renewable Energy Certificates (SRECs). An SREC represents the environmental benefits or attributes of one MWh of solar electric generation.⁸ Solar electric generation facilities can produce SRECs for a period of 15 years and each individual SREC has a trading life of up to two (2) years before it expires. SREC generators use a web-based electronic bulletin board platform to sell SRECs to buyers. Interested SREC buyers can also use the trading platform to request an SREC purchase. Buyers and sellers view postings on-line and contact each other offline and execute the SREC sale. After the sale is executed, the seller uses the web site to transfer SRECs to the buyer's on-line account. Electricity supply companies also use the web site to retire SRECs that have been used to meet their RPS requirements.

An electricity supply company that does not possess a sufficient number of SRECs to satisfy the requirements set forth in the RPS must make up for its shortfall by paying a penalty termed a "Solar Alternative Compliance Payment" (SACP).⁹ NJBPU has established a schedule for the next 8 years setting forth the SACP penalty rate. Pursuant to the adopted 8 year SCAP rate schedule, the SACP ranges from \$711 in 2009 to \$594 in 2016, as follows:

Reporting Year	SACP(\$/SREC)
2008–2009	\$711
2009–2010	\$693
2010–2011	\$675
2011–2012	\$658
2012–2013	\$641
2013–2014	\$625
2014–2015	\$609
2015–2016	\$594

Recent SREC spot sales have been in the mid to high \$600.00 range, just less than \$100.00 lower than the SACP. Long-term SREC sales however have averaged a more modest \$300.00 to \$400.00 per SREC, several hundred dollars less than the SACP.

Even at the long-term sale rate, SRECs offer a significant source of financing to third parties interested in developing solar energy facilities. The established 8 year SACP schedule ensures that SRECs will be an in-demand and tradable commodity well into the future. This stability has helped foster New Jersey's continually growing solar energy development.

The Solar Energy Advancement and Fair Competition Act

New Jersey Assembly Bill A3520, the Solar Energy Advancement and Fair Competition Act, amending the Electric Discount and Energy Competition Act, was introduced by Assemblymen Upendra Chivukula and Wayne Deangelo on December 3, 2008.¹⁰ This bill proposes significant changes to New Jersey's solar electric generation portion of New Jersey's RPS structure. These changes include:

Multi-year solar electric power schedule: An amendment to the Electric Discount and Energy Competition Act¹¹ to require the NJBPU to adopt an RPS program with a multi-year schedule. The multi-year schedule sets forth certain solar electric power generation sale or purchase requirements applicable to electricity supply companies, beginning with the one-year period commencing on June 1, 2009, and continuing through the one-year period commencing on June 1, 2026. This multi-year schedule requires that electricity supply companies collectively purchase at least a certain number of kWhs from solar electric generators in the State. Specifically, the bill calls for electricity supply companies to purchase:

Reporting Year	Amount of Solar Energy in Gigawatt hours (GWhs) ¹²
2010	195 GWhs
2011	273 GWhs
2012	396 GWhs
2013	554 GWhs
2014	748 GWhs
2015	973 GWhs
2016	1,216 GWhs
2017	1,459 GWhs
2018	1,751 GWhs
2019	2,101 GWhs

2020	2,521 GWhs
2021	3,025 GWhs
2022	3,479 GWhs
2023	4,001 GWhs
2024	4,601 GWhs
2025	5,291 GWhs
2026	6,085 GWhs

These proposed RPS requirements represent a significant increase over the current solar electric generation portion of the existing RPS requirement.

SACP schedule: A requirement that the NJBPU determine an appropriate SACP levels and establish at least a 10 year SACP schedule that permits each electricity supply company to comply with the solar generation sale or purchase requirements set forth in the 2009 to 2026 RPS schedule. This requirement would extend the current SACP schedule by 2 years adding additional certainty and predictability to the SREC market.

Customer participation: A requirement that long-term contracts, loans, SRECs, or other financial support under the NJBPU's jurisdiction be offered by electricity supply companies to customers within various defined market segments (e.g., residential, commercial and industrial, multi-family and affordable housing, and municipal and not-for-profit segments) to promote participation by residential, low-income, and other customers in solar electric generation projects.

Renewable energy portfolio standard review: A requirement that the NJBPU—in consultation with the New Jersey Department of Environmental Protection, electric public utilities, the Division of Rate Counsel in the Department of the Public Advocate, affected members of the solar energy industry, and relevant stakeholders—to periodically consider increasing the RPS requirement beyond the existing minimum amounts.

The bill permits the Board to consider: (i) reductions in air pollution, water pollution, land disturbance, and greenhouse gas emissions; (ii) reductions in peak demand for electricity and natural gas, and the overall impact on the costs to customers of electricity and natural gas; (iii) increases in renewable energy development, manufacturing, investment, and job creation opportunities in the state; and (iv) reductions in state and national dependence on the use of fossil fuels as factors in determining the need to increase the existing minimum RPS requirements.

By providing the NJBPU with greater flexibility in determining the RPS, the Legislature increases the ability of NJBPU to justify future increases to the solar electric generation portion of New Jersey's RPS program.

Conclusion: Impact of New Jersey's RPS Program

New Jersey has increased its solar energy installations ten-fold since 2006. The state now has 100 MWs of installed solar energy generated by 4000 solar installations, which is enough to supply the electricity needs for more than 15,000 New Jersey homes. As a result, New Jersey now has the most solar installations in the United States per square mile, and ranks second only to California in the total number of solar installations per state.¹³

Without a doubt it has been New Jersey's aggressive and forward thinking RPS requirements that have allowed New Jersey, one of the smallest states in the country, to be competitive in the solar energy arena with California, one of the largest. If passed by the New Jersey Legislature, A3520 would further secure and strengthen New Jersey's role as a national leader in solar energy development. *Stay tuned . . .*

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¹ The Treasury Department has initiated a program that now allows renewable energy project owners to obtain a grant, in lieu of the ITC, equal to 30 percent of the cost of eligible projects that start construction in 2009 or 2010. Program Guidance, *Payments for Specified Energy Property in Lieu of Tax Credits under the American Recovery and Reinvestment Act of 2009*, at § I. Overview (U.S. Treasury Dept. Jul. 2009), <http://www.treas.gov/recovery/docs/guidance.pdf>.

² Pursuant to the American Recovery and Reinvestment Act of 2009 a 50 percent bonus depreciation is available for eligible renewable energy systems (50 percent of the

adjusted basis of the property can be claimed in 2009). See American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5 (2009). To qualify for the bonus depreciation a project must: (1) have a recovery period of 20 years or less under normal federal tax depreciation, (2) commence operation at the same time the taxpayer claims the deduction, (3) have been acquired during 2008 or 2009, (4) have been placed in service in 2008 or 2009.

³ American Clean Energy Leadership Act of 2009 (ACELA), S. 1462.

⁴ Database of State Incentives for Renewables & Efficiency (DSIRE), *Summary Maps, Renewable Portfolio Standards* (Oct. 2009), http://www.dsireusa.org/documents/SummaryMaps/RPS_map.ppt.

⁵ Electric Discount and Energy Competition Act, 1999 N.J. ch. 23 (codified at N.J.S.A. 48:3-49 et seq.).

⁶ N.J.A.C. 14:8-2.1.

⁷ Database of State Incentives for Renewables & Efficiency (DSIRE), *New Jersey Incentives/Policies for Renewables & Efficiency*, <http://www.dsireusa.org/incentives/index.cfm?re=1&ee=1&spv=0&st=0&srp=1&state=NJ>.

⁸ N.J.A.C. 14:8-2.2.

⁹ N.J.A.C. 14:8-2.3(e); N.J.A.C. 14:8-2.10.

¹ Bill text, as introduced, is available at
⁰ http://www.billtrak.net/bt213/billtext/A_3/A_3520I1.PDF.

¹ The amendment specifically pertains to N.J.S.A. 48:3-87.

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¹ One GWh is equivalent to 1,000 MWhs.

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¹ Press Release, New Jersey Office of the Governor, *Governor Corzine Announces Ten-Fold Increase in Solar Energy Installations Since 2006* (Oct. 5, 2009), <http://www.nj.gov/governor/news/news/2009/approved/20091005a.html>.

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