

New Jersey Renewable Portfolio Standard Report Card: **D**

New Jersey's Renewable Portfolio Standard (RPS) sets renewable electricity goals and determines which energy sources qualify as renewable. These programs can be a vital part of a state's energy policy portfolio to drive the shift to renewable energy. But New Jersey's weak RPS program cannot foster the rapid transition to clean, renewable energy in time to stave off the worst effects of climate change. The state's RPS program is further compromised by New Jersey's continued reliance on electricity generation from natural gas and nuclear power.

The New Jersey RPS program is undermined by its mediocre target combined with a weak portfolio definition that counts dirty power sources toward its renewable energy goals — including burning wood and municipal garbage as well as waste methane from landfills, sewage treatment plants and factory farms. It also includes renewable energy "credits" (RECs), which allow utilities to continue burning fossil fuels while buying credits for renewable power produced elsewhere, even outside of New Jersey.

New Jersey's RPS program is barely average (see Table 1), largely because of the state's slow adoption of clean energy sources like wind and solar and its inclusion of dirty energy sources and RECs in its RPS program. New Jersey

can and must do better. It must strengthen its RPS program by expelling dirty energy sources, eliminating RECs and strengthening its target to achieve 100 percent clean, renewable energy within two decades.

New Jersey and the United States must rapidly shift to 100 percent clean, renewable power — produced from wind, solar and geothermal energy. The majority of U.S. electricity still comes from climate-destroying fossil fuels.¹ In 2016, natural gas-fired power plants delivered 59 percent of the state's electricity, and another 41 percent came from nuclear power plants.² Less than 2 percent of New Jersey's electricity came from clean renewables like wind, solar, tidal and geothermal energy.³

TABLE 1. Grading New Jersey's Renewable Portfolio Standard

RPS provision	Ideal RPS	New Jersey RPS	New Jersey grade	Average state grade
Target and time frame	100%	50% by 2030	C	D (30% by 2026)
Dirty portfolio and RECs	No RECs, none of 6 dirty energy sources	Allows RECs and 3 dirty energy sources	D	D (allow 4 dirty sources/RECs)
Transition to renewable energy	Shift to 100% by 2038	Projected to achieve 9% by 2038	F	D (projected to achieve 31% by 2038)
Overall			D	D

Washington's failure to act on climate change means that the states must take decisive action to transition to clean energy. Strengthening RPS programs is an important component of state climate policies and could dramatically increase the renewable power generation necessary to curb climate change.

Introduction to Renewable Portfolio Standards

State renewable portfolio standards establish a renewable power goal and target date and define which sources of energy count toward fulfilling the renewable electricity goals. All states allow solar and wind power, but they also allow a range of dirty energy sources such as municipal waste incineration or even coal. Almost all states allow utilities to purchase renewable energy credits (RECs), instead of generating renewable energy.⁴

Iowa adopted the first mandatory RPS in 1983, and in 1999 New Jersey adopted a mandatory RPS.⁵ In 2018, New Jersey strengthened its RPS goal to achieve 50 percent renewables by 2030 and to mandate that 5.1 percent of the state's renewable energy come from solar power by 2021 and 3,500 megawatts come from offshore wind power.⁶ By 2018, 29 states and the District of Columbia had mandatory RPS programs, covering utilities that deliver 56 percent of U.S. electricity sales.⁷

Strong RPS programs can be essential parts of state renewable energy policy, along with energy efficiency standards, tax incentives and grants for installing renewable energy, and other programs. But renewable incentives can be undercut when states like New Jersey remain entrenched in natural gas and nuclear energy infrastructure.

Food & Water Watch evaluated New Jersey's RPS program based on the strength of its target, the inclusion of RECs and dirty energy sources, and how well it was projected to shift its energy mix to wind, solar and geothermal power sources over the coming decades. (For more on the scorecard, see *Cleanwashing: How States Count Polluting Energy Sources as Renewable*⁸)

New Jersey's inadequate RPS target goal and time frame are too weak to curb climate change

Strong RPS policies would set a target of 100 percent renewable electricity generation from only wind, solar and geothermal energy, which is imperative to avoiding the worst effects of climate change. The planet is poised to emit more carbon dioxide than what the Intergovernmental Panel on Climate Change conservatively estimated would give us only a two-out-of-three chance of avoiding a catastrophic

1.5 degrees Celsius rise in temperature.⁹ As the concentration of greenhouse gases in the atmosphere exceeds crucial thresholds, the effect on climate change could be sudden and potentially irreversible.¹⁰ Reducing these emissions by about 20 percent every year would drive emissions to near zero within 20 years.¹¹

New Jersey's phased-in RPS target requires electric power providers to generate 50 percent of their power from renewable sources by 2030.¹² This target is too weak to halt or reverse climate change.

New Jersey's RPS allows dirty energy sources and policies

Food & Water Watch identified six dirty "renewable" energy sources as well as whether states allowed RECs that must be expelled from RPS programs. New Jersey's RPS allowed three dirty energy sources — waste incineration, waste methane and wood-burning power — as well as RECs.¹³ New Jersey's RPS did not include other common RPS dirty sources, but it must shed waste incineration, waste methane, wood-fired power plants and RECs to clean up its RPS program.

Waste methane (landfills, sewage treatment plants and factory farms): New Jersey's RPS included burning waste methane from landfills, sewage treatment plants and animal waste, such as manure digesters (burning the methane released from factory farm manure).¹⁴ This methane is often referred to as biogas.¹⁵ Biogas is primarily methane and is essentially indistinguishable from fracked natural gas, with many of the same problems.¹⁶ Burning biogas or methane releases greenhouse gases as well as pollutants including nitrogen oxides, ammonia and hydrogen sulfide.¹⁷

New Jersey has at least 10 landfill gas facilities.¹⁸ These polluting operations often primarily generate power for the facilities themselves — they burn methane to power the landfills. For example, much of the energy generated by the Atlantic County Utilities Authority's LFG facility powers the site's operation.¹⁹

Waste incineration: New Jersey allows garbage incineration to count toward its renewable energy goals.²⁰ Incinerating trash produces toxic air emissions and contributes to climate change. Incinerators emit nearly 14 times more mercury than coal per megawatt, and garbage incineration may produce more greenhouse gas emissions per megawatt than some fossil fuels.²¹

New Jersey is home to five municipal waste incinerators that combined burn about 4.8 billion pounds of municipal waste annually.²² The Newark Covanta garbage incinerator is the



largest in the state, accounting for nearly half of the state's waste incineration.²³ The garbage incinerator — and the hundreds of trucks that deliver garbage every day — has polluted the predominantly lower-income community of color for decades.²⁴ The facility violated New Jersey Department of Environmental Protection air permits over 150 times in the five years between 2013 and 2017.²⁵

Wood-fired power plants: New Jersey's RPS portfolio included wood-fired power plants.²⁶ Processing, transporting and burning wood all produce greenhouse gas emissions, and burning wood can release more emissions than coal.²⁷ Forestry companies manufacture wood pellets for power plants from tree branches, from waste wood and even from harvesting whole trees.²⁸

Renewable energy credits: Allowing RECs under New Jersey's RPS permits utilities to burn polluting fuels while purchasing distant renewable energy credits, potentially diminishing the in-state environmental benefits of renewable energy.²⁹ New Jersey has been meeting its RPS goals with almost as much "renewable" energy from garbage incineration RECs as from solar power.³⁰ In 2018, New Jersey began revising its REC program, but it is unclear what changes — if any — will be made to the program.³¹

New Jersey's RPS is not strong enough to shift to 100 percent renewables within two decades

Most states would not meet their RPS goals through wind, solar and geothermal power alone, and almost no states are on track to deliver 100 percent clean, renewable power by 2038. New Jersey has barely installed any wind or solar power facilities and is projected to reach only 9 percent renewable energy by 2038 from wind, solar and geothermal energy alone — well below its insufficient target of 50 percent by 2030 and not enough to curb climate change.³²

Now is the time to strengthen New Jersey's RPS program

Robust mandatory RPS programs can be an important part of state policies to encourage the shift to renewable energy. New Jersey must raise its target goal, expel dirty energy sources and eliminate renewable energy credits to ensure that the policies can promote a swift transition to genuine renewable energy. New Jersey must raise its RPS goal to 100 percent renewable energy and eliminate RECs, garbage incineration, wood-burning power, and waste methane from landfills, sewage treatment plants and factory farms from its eligible RPS energy sources.

Endnotes

- 1 Food & Water Watch analysis of U.S. Department of Energy (DOE). Energy Information Administration (EIA). Calculation based on Forms: EIA-826, "Monthly Electric Utility Sales and Revenues with State Distributions Report," EIA-860, "Annual Electric Generator Report," EIA-861, "Annual Electric Power Industry Report" and EIA-923, "Power Plant Operations Report." Data downloaded April 2018.
- 2 *Ibid.*
- 3 *Ibid.*
- 4 See Food & Water Watch. "Cleanwashing: How States Count Polluting Energy Sources as Renewable." July 2018 at 8.
- 5 Iowa Code §476.44; 77th Iowa G.A. Chapter 182, S.F. 380; Food & Water Watch analysis of National Conference of State Legislatures and University of North Carolina Database of State Incentives for Renewables and Efficiency (DSIRE).
- 6 N.J. Admin. Code §14:8-2.3(a); Office of the Governor. [Press release]. "Governor Murphy sings measures to advance New Jersey's clean energy program." May 23, 2018; Assembly of the State of New Jersey. 218th Legislature. A.3723. §2(d)(2) and §2(d)(4). March 22, 2018. The wind mandate declines after 2021.
- 7 Barbose, Galen. Lawrence Berkeley National Laboratory. "U.S. Renewables Portfolio Standards 2017 Annual Status Report" (RPS 2017 Annual). July 2017 at 6. Note: 56 percent figure cited is as of July 2017.
- 8 See Food & Water Watch (2018).
- 9 Pachauri, Rajendra K. et al. "Climate Change 2014: Synthesis Report." Intergovernmental Panel on Climate Change (IPCC) (IPCC Synthesis). 2015 at 64; Food & Water Watch calculation based on: Le Quéré, Corinne et al. "Global carbon budget 2016." *Earth System Science Data*. Vol. 8, Iss. 2. November 14, 2016 at 609 and 633; Friedlingstein, P. et al. "Persistent growth of CO2 emissions and implications for reaching climate targets." *Nature Geoscience*. Vol. 7. September 21, 2014 at 710.
- 10 Drijfhout, Sybreen et al. "Catalogue of abrupt shifts in Intergovernmental Panel on Climate Change climate models." *Proceedings of the National Academy of Sciences*. October 12, 2015 at E5777.
- 11 *Ibid*; Friedlingstein et al. (2014) at 710.
- 12 N.J. Admin. Code (N.J.A.C. §14:8-2.3(a); Office of the Governor (2018); New Jersey Assembly (2018) A.3723. §2(d)(2).
- 13 N.J.A.C. §14:8-2.2 ("biomass" and "resource recovery facility"), §14:8-2.5(b)(6) and (8), §14:8-2.5(c) and (d)(2), §14:8-2.6(b)(2), and §14:8-2.3(f).
- 14 N.J.A.C. §14:8-2.2 ("biomass"), §14:8-2.5(b)(6) and (8), and §14:8-2.5(c).
- 15 U.S. Environmental Protection Agency (EPA), DOE and U.S. Department of Agriculture. "Biogas Opportunities Roadmap." August 2014 at 8.
- 16 Anderson, Larry G. "Effects of using renewable fuels on vehicle emissions." *Renewable and Sustainable Energy Reviews*. March 2015 at 163 and 164.
- 17 Kuo, Jeff. California State University, Fullerton. "Air Quality Issues Related to Using Biogas From Anaerobic Digestion of Food Waste." February 2015 at 2; Sharvelle, S. and L. Loetscher. Colorado State University. "Anaerobic Digestion of Animal Wastes in Colorado." May 2011 at 1 and 3; Whiting, Andrew and Adisa Azapagic. "Life cycle environmental impacts of generating electricity and heat from biogas produced by anaerobic digestion." *Energy*. Vol. 70. 2014 at 181, 184, 187 and 191 to 192.
- 18 Food & Water Watch analysis of EIA-826, EIA-860, EIA-861 and EIA-923.
- 19 Atlantic County Utilities Authority. "Landfill Gas to Energy." Available at <http://www.acua.com/content.aspx?id=506>. Accessed March 2018; Atlantic County Utilities Authority. "Tour 1 — ACUA Haneman Environmental Park." Available at <http://www.acua.com/community-hub/tours/haneman-environmental-park/?terms=environmental%20park>. Accessed March 2018.
- 20 N.J.A.C. §14:8-2.6(b)(2) and § 14:8-2.2 ("resource recovery facility").
- 21 New York Department of Environmental Conservation. "Comments to the New York Public Service Commission Regarding the Matter of the Application of Covanta Energy Corporation for Inclusion of Energy From Waste Facilities as an Eligible Technology in the Main Tier of the Renewable Portfolio Standard Program. Case No. 03-E-0188." August 19, 2011 at 6, 7; EPA. Air emissions from municipal solid waste combustion facilities. Available at <https://archive.epa.gov/epawaste/nonhaz/municipal/web/html/airem.html>. Accessed March 2017.
- 22 Food & Water Watch analysis of State of New Jersey. Department of Environmental Protection (NJ DEP). Division of Solid and Hazardous Waste. "Authorized New Jersey Incinerators." January 12, 2018; Michaels, Ted and Ida Shiang. Energy Recovery Council. "2016 Directory of Waste-to-Energy Facilities." May 2016 at 49 to 50; Covanta Camden, Essex, Union and Warren facilities. Available at <https://www.wtienergy.com/plant-locations/energy-from-waste/wheelabrator-gloucester>. All accessed March 2018.
- 23 Food & Water Watch analysis of Covanta. "Covanta Essex," of NJ DEP (2018) and of Michaels and Shiang (2016) at 49 to 50.
- 24 Murray, Brian T. "Newark residents say garbage incinerator poses health risks." *Newark Star-Ledger*. December 5, 2009; Caroom, Eliot. "Newark incinerator plant to get cleaner emissions controls." *Newark Star-Ledger*. September 16, 2012.
- 25 Food & Water Watch analysis of NJ DEP violation data at Covanta Essex Co. Identification No. 07736. Available at <https://www13.state.nj.us/DataMiner/#>. Accessed March 2018.
- 26 N.J.A.C. §14:8-2.2 ("biomass") and § 14:8-2.5(c) and (d)(2).
- 27 Harrabin, Roger "Concerns over carbon emissions from burning wood." *BBC*. July 24, 2014.
- 28 Drouin, Roger. "Wood pellets: green energy or new source of CO2 emissions?" *Yale Environment 360*. January 22, 2015.
- 29 Mack, Joel et al. "All RECs are local: how in-state generation requirements adversely affect development of a robust REC market." *Electricity Journal*. Vol. 24, Iss. 4. May 2011 at 9 to 11.
- 30 Food & Water Watch analysis of PJM Environmental Information Services Generation Attribute Tracking System. New Jersey sourced 1.7 million RECs from municipal solid waste and 2.3 million RECs from solar for reporting period June 2016 to May 2017.
- 31 N.J. Admin. Code §14:8-2.3(f). Office of the Governor (2018); New Jersey Assembly (2018) A.3723 §2(d)(2).
- 32 Food & Water Watch analysis of EIA-826, EIA-860, EIA-861 and EIA-923. Food & Water Watch estimated the projected in-state share of utility scale power (including distributed rooftop solar) generated by wind, solar (including rooftop solar) and geothermal and the share of retail electricity sales from in-state wind, solar (including rooftop solar) and geothermal to 2038 with a 10-year linear projection of these annual percentages based on the 2007 to 2016 period.