

APPENDIX

**Testimony to New Jersey State Senate Environment and Energy Committee
Regarding Senate Bill 3258**

(November 20, 2023)

**Presented by David N. Sciocchetti
Chairman, Lake Garrison, Inc. Dam Committee**

Members of the New Jersey State Senate Environment and Energy Committee, I stand before you here today on behalf of Lake Garrison, Inc. (LGI), the private owner of a lake in Elk Township, Gloucester County. The purpose of my testimony this morning is to impress upon you the importance of Senate Bill 3258 to the future of our lake and many others like it across the state.

Lake Garrison is a significant recreational and environmental resource to our region in southern New Jersey. It is a home to an ecosystem of fish, frogs, turtles, swans, geese, and aquatic plants. In addition, approximately 20,000 visitors per year come to enjoy swimming, boating, and picnicking every year.

By way of background, the NJDEP Bureau of Dam Safety has advised LGI that our dam does not comply with current regulations, putting it at risk of an order to drain the lake as a public safety hazard if compliance is not achieved. In addition, the spillway portion of our dam was built in 1958 and is nearing the end of its useful life. To be very clear, we are facing two potential catastrophic outcomes: a dam failure or a forced lake drainage.

To address these dual concerns, over two and a half years ago LGI embarked on an effort to upgrade our dam. To date we have secured an engineering firm and completed the final design of a compliant dam that has been approved by Dam Safety. In addition, we were able to apply for, and be approved for, a \$2,850,000 loan from New Jersey's incredibly valuable dam improvement revolving loan fund. By means of a Co-Borrower's Agreement with Elk Township, we have also secured the loan program's required local government partner and have received a letter of support from Gloucester County. To accomplish these critical steps, we have spent countless volunteer hours and more than \$150,000.00.

Recently, GZA GeoEnvironmental, our engineer, completed the essential elements of a bid package that would allow us to engage a contractor to perform the work needed to bring our dam into compliance with New Jersey regulations. We had hoped to go to bid this fall and complete the project next spring.

Unfortunately, at its October meeting, the LGI Board of Directors had to reluctantly put a hold on proceeding any further with the project. Without knowing that the previously approved loan funds were actually available, the Board was unwilling to enter into a bidding process knowing it did not have the resources to enter into an actual contract for the dam improvement work.

As you know, two identical companion bills, S3258 and A4605, were introduced into the NJ legislature last fall to appropriate \$28,670,924 for loans for the restoration of dams in New Jersey. These important bills have not yet advanced beyond the committee level.

LGI is one of seventeen lakes across the state of New Jersey that are awaiting the approval of these two bills to allow them to address significant concerns with their dams. We are here today to encourage and request that the members of the Senate Environment and Energy Committee take action on this critical public safety issue.

LGI has worked hard to be in a position bring our dam into compliance with New Jersey standards. We have committed our time and resources to get to where we are. We now need your help.

We need you to advance Senate Bill 3258 to the next step in the legislative process. Help us keep our lake, and sixteen other lakes, alive and safe for future generations to enjoy.

Thank you.



State of New Jersey
DIVISION OF RATE COUNSEL
140 EAST FRONT STREET, 4TH FL.
P.O. BOX 003
TRENTON, NEW JERSEY 08625

PHIL MURPHY
Governor

TAHESHA L. WAY
Lt. Governor

BRIAN O. LIPMAN
Director

November 16, 2023

Via Electronic Mail

Members of the Senate Environment and Energy Committee
Statehouse Annex
P.O. Box 68
Trenton, NJ 08625-0068

Re: S3909 (Establishes Conditions for Net Metering for Authorized Food Waste Recycling Facilities)

Members of the Senate Environmental and Energy Committee:

I write on behalf of the New Jersey Division of Rate Counsel ("Rate Counsel") regarding S3909 (Establishes conditions for net metering for authorized food waste recycling facilities), which is scheduled for consideration by the committee on November 20, 2023. Rate Counsel is concerned about the financial impact on ratepayers of this bill and do not see a need for additional subsidies to food waste recycling facilities.

S3909 provides conditions for additional net metering subsidies for authorized food waste recycling facilities. Rate Counsel is concerned about the potential costs of this bill for ratepayers. Under N.J.S.A. 48:3-87(e) and the implementing regulations issued by the Board of Public Utilities ("Board"), facilities that generate electricity by burning gas from the anaerobic digestion of food waste can already qualify as Class I renewable energy facilities and be eligible for net metering. The bill does not appear to change the criteria for food waste facilities to qualify for net metering. However, the bill would make a substantial change in the

compensation these facilities would receive for the energy they export into the State's electric grid.

Under the Board's net metering program as it has existed since the initial enactment of the Electric Discount and Energy Competition Act of 1999, if a customer with a behind the-meter Class 1 generation facility produces more electricity than the customer uses over an annualized period, the excess generation is compensated based on the avoided cost of wholesale power. Food recycling facilities are already eligible for this benefit. Under the bill as proposed, however, food waste recycling facilities could opt to be compensated for such excess generation at the electric power supplier's or basic generation service provider's retail rate for electric supply, plus 3 cents per kilowatt-hour. The difference between the avoided wholesale cost and the retail cost plus 3 cents represents an additional and substantial subsidy that must be paid for by other ratepayers.

Net metering already customers with Class I generation substantial subsidies in the form of above-market compensation for the power these facilities export to the grid. There is no reason for food waste recycling facilities to receive more compensation for net metering than any other Class I resource.

Very truly yours,

Director, Division of Rate Counsel

By: /s/ Brian Lipman
Brian O. Lipman, Director

BOL

cc: Joey Guerrentz, Policy Analyst & Aide, Senate Environment and Energy Committee
Matthew Peterson, Democratic Aide
Kevil Duhon, Deputy Executive Director at New Jersey Senate Democratic Office
Eric Hansen, OLS Committee Aide

Christina Denney, OLS Committee Aide
Rebecca Panitch, Republican Aide, Senate Environment and Energy Committee
Christine Mosier, Chief of Staff, Senator Bob Smith
Pamela Cocroft, Committee Secretary
Erin Rice, Chief of Staff, Sen. Codey
Assemblyman Daniel Benson
Tina DeSilvio, Chief of Staff, Sen. Durr
Brian Woods, Chief of Staff, Sen. Stansfield
Maura Caroselli, Managing Attorney for Gas & Clean Energy, Rate Counsel
Sarah Steindel, Attorney for Rate Counsel
David Wand, Managing Attorney for Electric, Rate Counsel
Robyn Roberts, Legislative Liaison & Public Information Officer, Rate Counsel



State of New Jersey
DIVISION OF RATE COUNSEL
140 EAST FRONT STREET, 4TH FL.
P.O. BOX 003
TRENTON, NEW JERSEY 08625

PHIL MURPHY
Governor

TAHESHA L. WAY
Li. Governor

BRIAN O. LIPMAN
Director

November 16, 2023

Via Electronic Mail

Members of the Senate Environment and Energy Committee
Statehouse Annex
P.O. Box 68
Trenton, NJ 08625-0068

**Re: S3992 (Requires Electric Public Utilities to Develop and Implement
Grid Modernization Plans; Appropriates \$300 Million)**

Members of the Senate Environment and Energy Committee:

I write on behalf of the New Jersey Division of Rate Counsel ("Rate Counsel") regarding S3992 (Requires electric public utilities to develop and implement grid modernization plans; appropriates \$300 million). This bill is listed as for discussion only on the November 20, 2023 agenda. Rate Counsel appreciates the Committee's desire to address this significant issue and welcomes the proposed bill as an opportunity to begin that discussion. While Rate Counsel does have some concerns about implementation, Rate Counsel is generally supportive of the concepts set forth in the bill.

S3992 provides for implementation of grid modernization plans by the State's electric utilities. No later than one year after the effective date of the act, every electric utility shall prepare and submit to the Board of Public Utilities ("Board") a grid modernization plan, the purpose of which shall be to identify the most beneficial, cost efficient, and practicable projects to be undertaken by each utility. The purpose of these projects is to modernize the State's electric transmission and distribution system. S3392 provides for a number of purposes for individual projects, including increasing the capacity of the electric distribution system to interconnect distributed energy resources (e.g. rooftop solar), decreasing the risk of power outages, and improving the resilience of electric transmission and distribution systems against natural hazards associated with climate change. Although plans are not limited to the enumerated objectives, the Board may only assess a plan on its ability to achieve the enumerated objectives.

Rate Counsel agrees with the idea of requiring a plan from the utilities. It has been Rate Counsel's experience, however, that many of the plans filed with the Board are incomplete or not as thoroughly vetted as they should be. Rate Counsel suggests either including in the bill, or allowing the Board to establish, some more technical requirements for the plans so that they are

Gx

more fully developed upon filing. Moreover, the Board should be given a 30 day period in which to determine that the submitted plan is administratively complete before beginning a more comprehensive review of the plan. With regard to timing of review, although the utilities are given a year to develop a Grid Modernization Plan, the Board is only given 120 days to approve, conditionally approve, or disapprove the proposed plan. Given that the Board will be reviewing four plans at the same time, the complexity of the plans and the need for other interested parties such as Rate Counsel, this is too short a period for review and comment on the proposed plans. Rate Counsel suggests at least 180 days after the Board finds that the submitted plan is administratively complete.

With regard to implementation, S3992 requires an electric public utility to begin implementing the plan within 90 days of approval by the Board. If a utility fails to implement its plan in a timely manner, or if it does not achieve the stated objectives, there is no consequence or penalty. The utility must simply provide written notice to the Board. Rate Counsel suggests that there be some consequence to a utility not properly implementing its plan or achieving the results the plan is supposed to achieve.

Rate Counsel also has concerns about the recovery of costs in implementing the plan by the utilities. Notwithstanding the lack of obligation on the part of the utility to fulfill its obligations to deliver results under its own designed plan, each utility is entitled to "full and timely recovery of all costs incurred in the implementation of its plan." Although the costs are subject to the review of the Board, the language does not explicitly require the plan implementation costs to be reasonable or prudent, nor does it provide for consequences if the plan does not achieve the contemplated results. This puts customers at severe risk of overpaying for imprudent and unreasonable costs. Utilities are in the best position to control their own expenses and assure that grid modernization plans achieve results that are beneficial for their ratepayers and the State. Rate Counsel suggests that each plan also be required to include performance metrics that must be met prior to recovery. As the committee is aware, the goal here is not simply to build out the electric grid, but to ensure that we are doing so in a prudent and cost effective manner. The utilities will be providing a plan on how to do so, and should be held to the results they promise as a condition of recovery. Without proper review as to the reasonableness and prudence of the plan implementation, S3992 allows utilities free rein to overspend at the ratepayers' expense.

Also, the bill provides that, no longer than one year after the effective date of the bill, the Board must develop a program to provide grants to electric utilities for the purpose of providing financial relief to ratepayers for the rate increases caused by these modernization plans. In fact, the bill provides for the establishment of a Grid Modernization Ratepayer Relief Fund, solely for the purpose of administering this relief program. The Fund shall be administered by the Board and shall be credited with (a) money appropriated by the Legislature (2) money received from the societal benefits charge, as determined by the Board (3) money made available to the Board pursuant to the implementation of the Regional Greenhouse Gas Initiative (4) and any return on investment of money deposited in the fund. In fact, the bill appropriates \$300 million from the General Fund to establish this program.

Rate Counsel is supportive of the Legislature's efforts to find financial relief for ratepayers, and appreciates the desire to find funding sources other than ratepayers. However, Rate Counsel recommends that the most beneficial way to provide relief is to keep the money in the pockets of the State's residents and businesses in the first place, rather than collecting and redistributing through the utilities. Rate Counsel is concerned with the bill's provision on ratepayer relief, specifically the portion where grants would be given to the utilities directly, to then be implemented by them for the relief of ratepayers. It is unclear how this provision would actually work. As was the case with COVID-19 funding, the utilities will incur incremental capital and O&M costs to administer the grants, which will further compound the rate increases this section is attempting to address. Rate Counsel suggests instead that the money be provided to the utilities as a capital contribution. The utility would then reduce the amount recovered from ratepayers by the amount of the grant. This will have the effect of ensuring the utility timely recovers its expenses and that the resulting bill impacts are reduced for all ratepayers. However, the grants should only be used to reduce the cost of the plan, not to increase the plan's scope.

Thank you for beginning this important discussion and considering our comments on the proposed bill. We look forward to further discussions as we work towards a plan that will support grid modernization while protecting ratepayers from excessive costs and unaffordable utility bills.

Very truly yours,

Director, Division of Rate Counsel

By: /s/ Brian Lipman
Brian O. Lipman, Director

BOL

cc: Joey Guerrentz, Policy Analyst & Aide, Senate Environment and Energy Committee
Matthew Peterson, Democratic Aide
Eric Hansen, OLS Committee Aide
Rebecca Panitch, Republican Aide, Senate Environment and Energy Committee
Christine Mosier, Chief of Staff, Senator Bob Smith
Pamela Cocroft, Committee Secretary
Erin Rice, Chief of Staff, Sen. Codey
Tina DeSilvio, Chief of Staff, Sen. Durr
Brian Woods, Chief of Staff, Sen. Stansfield
Maura Caroselli, Managing Attorney for Gas & Clean Energy, Rate Counsel
Sarah Steindel, Attorney for Rate Counsel
David Wand, Managing Attorney for Electric, Rate Counsel
Robyn Roberts, Legislative Liaison & Public Information Officer, Rate Counsel



State of New Jersey
DIVISION OF RATE COUNSEL
140 EAST FRONT STREET, 4TH FL.
P.O. BOX 003
TRENTON, NEW JERSEY 08625

PHIL MURPHY
Governor

TAHESHA L. WAY
Lt. Governor

BRIAN O. LIPMAN
Director

November 17, 2023

Members of the Senate Environment and Energy Committee
Statehouse Annex
P.O. Box 068
Trenton, N. J. 08625

RE: S2978 Draft Senate Committee Substitute (Revises State Renewable Energy Portfolio Standards /Concerning Renewable Electric Power Generation Facilities)

Members of the Senate Environment and Energy Committee:

I write on behalf of the Division of Rate Counsel regarding the draft Senate Committee S2978 (concerning renewable electric power generation facilities) that was received by our office on November 15, 2023. This bill is up before the Senate committee on November 20, 2023. I hope you will consider our comments. As we previously expressed, we have several concerns about this bill, especially its significant financial impact on ratepayers and its failure to provide a real analysis of cost verses benefits.

As you are aware, Rate Counsel represents and protects the interests of all utility customers – residential customers, small business customers, small and large industrial customers, schools, libraries, and other institutions in our communities. Rate Counsel is a party in cases where New Jersey utilities seek changes in their rates or services. Rate Counsel also gives consumers a voice in setting energy, water, and telecommunications policy that will affect the rendering of utility services well into the future.

The bill would create a new requirement for each basic generation service provider to acquire and retire “clean energy attribute certificates” or “CEACs” to achieve a clean electricity standard of at least 80 percent of the State’s retail electric sales by June 1, 2027, increasing to 85 percent by June 1, 2030 and 100 percent by June 1, 2035. Further, the legislation would establish a target of meeting 65 percent of the State’s electricity demand with in-state clean electricity production facilities. The new CEAC requirement would be layered on top of the existing renewable portfolio standards, including the carve-outs for solar and offshore wind, and the zero emissions certificate (“ZEC”) program that subsidize nuclear generation. Renewable energy certificates (“RECs”), including Class I RECs, SRECs, TREC and SREC-IIs issued for

in-state solar generation, ORECs issue for offshore wind generation, and ZECs could be used in lieu of CEACs to satisfy the clean electricity standard.

Although the legislative findings state that the clean electricity standard will be affordable because it allows for a mix of in-state resources and lower-cost regional resources, the finding rests on assumptions that appear unrealistic. First and foremost, the recent cancellation of the Ocean Wind 1 and 2 projects, which were expected to add 11,000 megawatts of in-state non-emitting generation, will almost certainly make both the CEAC requirement overall and the in-state carve-outs physically unachievable in the time frames provided in the bill. With insufficient resources to satisfy the CEAC standard, and especially the in-state carve-out, CEAC prices could quickly reach unaffordable levels.

A related issue is that the CEAC program is intended to rely on an efficient, competitive market to keep cost down. Based on the State's experience with the legacy SREC program, this is not a foregone conclusion. When SREC prices fell with increase solar development, industry lobbyists repeatedly went back to the Legislature to increase the solar renewable portfolio requirements, and SREC prices remained high despite decreasing costs. While the bill includes a provision requiring the Board to implement market power monitoring and mitigation measures, it is not clear that these efforts could be effective in the face of repeated legislative changes.

In this regard, it is important to keep in mind, since the CEAC program would be layered on top of existing requirements, the bill will not reduce the costs that are already being borne by ratepayers to support non-emitting generation, including the costly subsidies for solar and nuclear facilities, or the costs of future subsidies as offshore wind facilities come online. The cost of CEAC compliance will be in addition to those costs. While, in theory, this legislation could be viewed as part of a transition to a comprehensive technology-neutral clean electricity standard, the bill itself does not create a clear pathway to phasing out the existing programs.

Rate Counsel supports renewable energy, and recognizes the importance of encouraging in-state renewable energy investments. We are, however, concerned about the impacts on New Jersey's residents and businesses and their ability to pay for basic living necessities in addition to continued increases in their energy bill. As committee members are aware, ratepayers were hit hard with the increases in natural gas rates that resulted from Russia's war with the Ukraine, and gas cost increases had a ripple effect on other energy costs such as electric. In addition, as many committee members know, the COVID-19 pandemic is still impacting New Jersey households and families and businesses. Although the proposed legislation will not take effect immediately, the impacts of the COVID-19 pandemic and the Ukraine war serve as a stark reminder of the hardships that can result from increased energy costs and why affordability must be part of the equation.

We encourage the Committee not to pass this bill out of committee, until its impacts on ratepayer can be fully analyzed. However if the Committee is inclined to advance this legislation, Rate Counsel urges that the bill be amended to include stronger ratepayer protections.

The most important and effective protection against excessive cost would be a strong, clearly defined cap on costs. While the existing cap on the cost of New Jersey's Renewable

Portfolio Standard provides some protection, Rate Counsel has concerns about the existing test because it offsets environmental benefits. Environmental benefits are real, but they cannot be used to pay for rent, groceries, or medicine. For this reason, the cost test should be based on an the dollar costs that low through to the bills paid by New Jersey residents an benefits, and it should be based on an unambiguous objective standard. Rate Counsel recommends the following as an additional section to be added to the bill:

Notwithstanding the other provisions of P.L. , c. (C.) (pending before the Legislature as this bill) to the contrary, the Board shall take all steps necessary to prevent the costs of electricity supply for New Jersey electricity users from exceeding _____ in any energy year, including adjusting the CEAC requirement or other programs that incentivize the development and use of clean energy production facilities. For the purpose of implementation of this restriction, the costs of electricity supply shall be estimated by the Board on an annual basis using the following methodology: Energy payments (including transmission losses, plus capacity payments plus CEAC, Class I REC, OREC, SREC, SREC-II, TREC, and ZEC payments, plus payments required under section 9 of P.L. , c. (C.) (pending before the Legislature as this bill), less PJM-level transmission revenue allocable to the New Jersey load serving entities, and less demonstrated energy supply cost savings resulting from distributed solar, with the result divided by total New Jersey gross load.

Rate Counsel is willing to further discuss an appropriate measurement for a cap on costs to protect ratepayers.

In addition, the Committee should consider several other amendments to the bill as proposed.

Section 4.c of the bill provides as follows:

A facility seeking to be designated as a clean energy production facility shall apply to the board, in a form and manner determined by the board, and shall be certified and classified by the board in consultation with department.

This provision appears to contemplate a facility-by facility qualification process, which would be unwieldy and would have the effect of limiting supply and increasing CEAC values. Instead the bill should direct the Board and the Department of Environmental Protection to issue rules on this issue. Rate Counsel suggests the following substitute language, which also changes “clean energy” to “clean electricity” consistent with the usage elsewhere in the bill:

The board, in consultation with the department, shall issue regulations criteria and process for facilities to be designated as clean electricity production facilities.

This language would allow the Board the flexibility to adopt categorical qualifications for technologies that are proven to be non-emitting.

Section 5.a (2) of the bill states that the Board may accelerate the achievement of the 100 percent clean electricity standard through a “downward sloping demand curve” or other mechanism. The meaning of “downward sloping demand curve” is unclear. Rate Counsel recommends the following revision, with changes from the text as proposed shown in underlined and strikeout type:

The board may establish a market structure that accelerates the achievement of the 100 percent clean electricity standard ~~either through the establishment of a downward sloping demand curve, or another appropriate mechanism,~~ if the board determines that ~~the benefits of doing so outweigh the costs to New Jersey residents.~~ such an alternative market design would lead to net public benefit and would be consistent with the cap on electricity supply costs provided in section ___ of P.L. ___, c. (C. ___) (pending before the Legislature as this bill).

Section 5.c. should be modified as follows to strengthen the proposed provisions on market monitoring and mitigation:

The board shall implement an independent market power monitoring and function that includes mitigation measures to prevent the exercise of market power under the clean energy standard established pursuant to subsection a. of this section. Authorized market power mitigation measures shall include, but are not limited to, the requirement that all offers of eligible qualified CEACs into a regional marketplace shall be subject to independent review of their competitiveness, and may be rejected or modified if found to be non-competitive in terms of both conduct and impact. The market power monitor selected by the Board to conduct these functions will prepare and provide an annual report to the Board on the status of competitive clean electricity markets.

Sections 5.d (1) and (2) of the bill allow the nuclear power plants that receive ZECs to elect instead to receive CEACs. While the legislation allows the Board to cap the value of CEACs awarded to existing nuclear units, the cap could be higher than the current cap of \$10 per megawatt hour of nuclear generation. Further, there would be no cap on the value of CEACs for new nuclear generation. While nuclear generation is not carbon-emitting at the point of generation, it is not truly “clean,” and should not be incentivized on the same footing as other non-emitting technologies. Accordingly, Rate Counsel suggests the following language to be added to the end sections 5.d (2): “... provided, however, that the value of CEACs awarded to any nuclear plant shall not exceed \$10 per megawatt hour of electric production.”

Section 5.i. allows the Board to establish an alternative compliance payment (“ACP”) as a substitute or the requirement to purchase and retire CEACs. ACPs are an important protection against excessive costs to ratepayers. Rate Counsel recommends the following changes to this provision, to make ACPs mandatory and change its focus to consumer protection:

- b. The board ~~may~~ shall establish an alternative compliance payment to enable basic generation service providers and electric power suppliers to comply with the requirements of subsection a. of this section, and lead to an provided

~~that the alternative compliance payment levels are established at a level sufficient to incentivize the development of efficient, commercially available, new clean electricity production facilities-market. The alternative compliance payment shall be set by the Board in an annual process on a rolling five-year basis. The alternative compliance payment shall decrease for each and every year of the rolling five-year schedule.~~

Section 9.b. of the bill requires the Board to develop and implement a program or programs to “promote the development and deployment of zero- or reduced-emission technologies to cost-effectively meet the State’s reliability requirements for electric capacity” Rate Counsel has three concerns about this proposal. First, it contemplates additional subsidies for electric capacity, which would be in addition to the State’s existing program and the new CEAC program, which are paid based on energy generation. Second, it appears to contemplate ratepayer-funded research and development, which is more appropriately funded by sources other than ratepayers, such as federal funding, the State’s General Fund, and private industry. Third, by including reduced-emission technologies in addition to zero-emission technologies as potential beneficiaries of the mandated programs, this provision as proposed, opens the door to ratepayer funding of fossil-fueled technologies that are claimed to be more fuel-efficient. For these reasons, section 9.b should be deleted from the bill.

We hope you will consider our comments. Please let us know if you have any questions. We very much appreciate the opportunity to share our comments on behalf of the State’s ratepayers. Please feel free to contact our office if you have any questions. Thank you for your attention to these important matters.

Sincerely,

/s/ Brian O. Lipman

Brian O. Lipman
Director, Division of Rate Counsel

- c: Joey Guerrentz, Democratic Aide, Senate Environment and Energy Committee
- Kevil Duhon, Deputy Executive Director at New Jersey Senate Democratic Office
- Eric Hansen, OLS Committee Aide
- Christina Denney, OLS Committee Aide
- Rebecca Panitch, Republican Aide, Senate Environment and Energy Committee
- Christine Mosier, Chief of Staff, Senator Bob Smith
- Pamela Cocroft, Committee Secretary
- Jessica Murray, Chief of Staff, Senator Greenstein
- Erin Rice, Senator Codey’s Chief of Staff
- Tina DeSilvio, Chief of Staff, Senator Durr
- Brian Woods, Chief of Staff, Senator Stansfield
- Assemblyman Robert Karabinchak

Members of the Senate Environment and Energy Committee

November 17, 2023

Page 6

Assemblywoman Verlina Reynolds-Jackson

Assemblyman John McKeon

Stephanie McAlary, Chief of Staff, Assemblyman Karabinchak

Maura Caroselli, Managing Attorney for Gas & Clean Energy, Rate Counsel

Sarah Steindel, Attorney, Rate Counsel

David Wand, Managing Attorney, Electric, Rate Counsel



10 W Lafayette Street
Trenton, NJ 08608-2002

609-393-7707
www.njbia.org

Michele N. Siekerka,
Esq.
President and CEO

Christopher Emigholz
Chief Government
Affairs Officer

Raymond Cantor
Deputy Chief
Government Affairs
Officer

Althea Ford
Vice President

Elissa Frank
Vice President

Kyle Sullender
Director of Economic
Policy Research

To: Chairman Smith, Vice Chairwoman Greenstein and Members of the Senate
Environment and Energy Committee

From: Raymond Cantor, Deputy Chief Government Affairs Officer
New Jersey Business and Industry Association

Date: November 20, 2023

Re: NJBIA Testimony on Senate Bill No. 2978

On behalf of the New Jersey Business & Industry Association, the state's largest business association, I am testifying to express significant concerns with Senate Bill No. 2978, which would seek to establish a 100% clean energy standard for the generation of electricity by 2035.

NJBIA represents both large and small businesses. Our members include the state's public utilities, producers of renewable energy, including many wind and solar developers, as well as those engaged in fossil fuel production. Significantly, our members include many manufacturers who rely on an abundant and affordable energy supply to operate their businesses. In fact, all our members, as well as every person in this state, rely on electricity to exist in our modern economy. Because energy and electricity are so intertwined with our economic success and prosperity, NJBIA has a keen interest in this bill.

At the outset, we do not believe that such a significant piece of legislation that seeks to set clean energy targets for the next decade, targets we believe to be unrealistic and potentially harmful, should be acted upon in lame duck. We have been told that if this bill is released by the committee today it will be second referenced. We are appreciative of that additional process, but we would urge this committee not to release this bill today for the reasons below.

We will start with some basic premises. It must be a fundamental principle of energy policy that energy be both affordable and reliable. We are concerned that this bill does not adequately adhere to these principles as the end result will be more expensive energy for our residents and businesses without any significant benefit to our environment.

I think we have all learned some lessons over the last few weeks with the cancellation of the Ørsted projects in New Jersey. We have also learned a lot from the experiences of other states and nations, in particular Germany, where unrealistic clean energy mandates have deindustrialized major sectors of their economy while increasing carbon emissions through the burning of more wood and coal.

15x

The lesson that should be learned is that government mandates, no matter how well intentioned, cannot overcome economic realities and realities on the ground. Rather than advancing another unachievable mandate, a mandate that will have real-world, negative consequences, we should take time to better plan, allow technologies to emerge, and allow the marketplace, not government, to select our energy mix of the future. Clean sources of energy will be our future, the question is not if, but how and when. But a government mandate may actually be counterproductive by retarding innovation and spending money in unproductive ways.

We have several concerns with the proposed draft. We appreciate that the system being created under the proposed draft is comprehensive and works "on paper." The real world, however, is far more complex and our realities work against the scheme envisioned. The bill would require the BPU to adopt rules and regulations to establish a clean energy standard. It will have the Board study upstream and downstream carbon emissions of sources. It will have to establish a certification process for clean energy facilities, a retirement system for existing sources, and many other regulatory components necessary to make this work.

While the BPU and the Administration will never say it is too much or they can't do it, the fact of the matter is that the BPU has already been given too much to do and they can't get their existing work done. Sometimes it is best to do fewer things and make it work than to continue to pile on more workload.

The impact of this legislation will be to move solar and wind projects to other states and have New Jersey ratepayers pay for those projects. This is not good public policy, and it is not good for New Jersey workers or for the economy.

Moreover, this bill will not reduce one molecule of carbon. Existing fossil fuel plants in New Jersey or throughout the PJM Interconnection will continue to operate and sell power into the grid, power that will be used by New Jersey consumers. The "clean" power built in other states will never reach New Jersey, nor will the economic benefits.

Of course, the cost of energy will go up as it always does when the state enacts mandates on markets. New Jersey residents and businesses already pay the 11th highest electricity rates in the nation, and they will no doubt go higher as the energy transition progresses. We do not know what the total cost of that transition will be - although we have been asking - and we do not know what the cost of this bill will be. Cost matters. Affordability matters.

As we think about a warming planet, it is essential that electricity prices remain affordable so our lower-income residents can afford to use their air conditioning. Electricity prices also matter for businesses, especially energy intensive ones. Prices matter to our disadvantaged communities struggling to survive week-to-week and to our small businesses still struggling to recover from pandemic lockdowns.

It is also essential that we maintain a reliable grid, something that will be more challenging as we incorporate more intermittent sources of energy into it. These challenges can be met, but they are best met through market expectations and forces, and not through government mandates.

For the past 150 years our planet has increased its population from 1 billion people to 8 billion people. We have managed to feed those people, have the highest standards of living in human history, more than doubled our life expectancy, nearly eliminated deaths from natural disasters, and removed billions of people from abject poverty because we have a robust and affordable energy system largely free from government regulatory prescription.

In short, the market works. And it will work to deliver an energy transition to a decarbonized economy. But only if we allow it to work. We fear that artificial mandates on clean energy percentages are unrealistic time frames will only waste resources while accomplishing little.

We ask that this bill be held and that we work to encourage innovation, plan better, and work to invest in our basic infrastructure needs. That will be the clearest path to a decarbonized economy.



Clean Ocean Action
49 Avenel Blvd.
Long Branch, NJ 07740
Info@cleanoceanaction.org
732-872-0111

**Clean Ocean Action Testimony in Support of S3992
New Jersey Senate Environment and Energy Committee
November 20, 2023**

Thank you for accepting this testimony regarding New Jersey Senate Bill 3992, submitted on behalf of Clean Ocean Action (COA).

COA was founded in 1984 to end ocean dumping and has been fighting against ocean pollution and industrialization in many forms since then, including successfully blocking many offshore fossil fuel developments. COA supports S3992, as it will allow New Jersey to pursue a diverse renewable energy investment portfolio and increase efficiency, which will help reduce climate change.

COA advocates for reasonable and responsible renewable energy development and that renewable energy projects be subject to the same level of environmental review and scrutiny as any other major industrial project. For example, COA has raised several environmental and economic concerns about the scope, scale, and speed of offshore wind development in the New Jersey/New York region.

One of these concerns is the lack of grid infrastructure to support the proposed offshore wind energy development in the region. Projects currently wait in the interconnection queue for an average of five years, and if offshore wind installations cannot connect to the grid, the energy produced will not be able to replace fossil fuel sources of energy. The same is true for other forms of renewable energy. Sustainable energy efforts should first and foremost prioritize and require efficiency investments, waste reduction, and energy storage, followed by renewable energy development.

Grid modernization plans are necessary to develop a diverse suite of renewable energy sources and energy storage solutions to increase efficiency and cost-effectiveness while avoiding reliance on fossil fuel energy for backup. COA is pleased to see that S3992 promotes energy efficiency as well as a diverse renewable energy portfolio. To make this aspect even stronger, COA recommends that the Senate add language that renewable energy projects should be prioritized according to an economic and environmental cost/benefit analysis over their entire life cycle, including manufacturing the materials required to develop them.

Thank you again for allowing Clean Ocean Action to provide testimony in support of this bill.

18x

Testimony for this morning's SEN hearing in support of the grid mod legislation.

--- Doug

Doug O'Malley, Director
Senate Environment Committee
In Support of S3992
November 20, 2023

Environment New Jersey is strongly in favor of S3992 so that we make the investments in the electric grid for the 21st century and the transition to clean energy demand. These investments are sorely needed and if we defer these modernizations, we will end up in a scenario of pay me now, or pay me later.

Currently, three of the largest state utilities are seeking approval to allocate more than \$1 billion in new filings submitted earlier this month to NJBPU. This would be in addition to the \$300 million that this legislation would allocate to grid modernization from the General Fund. We often say that the state needs to save for a rainy day – but by failing to invest in the grid, we increase the likelihood that when that rainy day comes (in the case of extreme weather), our grid won't be prepared.

New Jersey rightfully has advanced goals regarding clean energy, including intentions for widespread adoption of renewable energy, EVs, heat pumps and other advanced solutions. The grid, especially distribution, is the single most important asset in making that transition happen, and this legislation will be instrumental to ensuring success.

Load changes associated with renewable energy, EVs, and heat-pumps will profoundly change the load curve and will require reinforcement and optimization of substations and feeders. Many of those upgrades will take up to a decade to plan and implement, and it is therefore critical that we begin planning and making investments now in support of our future needs.

Note, New Jersey will need to massively increase the speed, scale, and scope of electric vehicle (EV) charging infrastructure investments to meet the state's climate, air quality, and equity goals. However, current barriers to the deployment of infrastructure – delays, inefficient rates, and inequitable distribution of infrastructure – are slowing down the ability to meet these goals. States and cities need to eliminate these barriers to charging infrastructure and help close the investment gap, without delay, for multiple markets including passenger vehicles, vocational trucks, regional and long-haul trucks.

Battery storage is crucial when it comes to grid modernization and readiness, energy storage is exceptionally important and can significantly reduce the level of substation upgrade required to accommodate changing loads. We strongly urge that the legislation recognize the need for storage as part of modernization and readiness, and it should codify that storage will need to be implemented at multiple levels in the system, on the utility and customer side of the meter.

The need for this legislation is clear and this legislation should supplement actions by the NJBPU and help leverage desperately needed federal funds to attract more public and private dollars to modernize what essentially is our grandparent's electric grid.

Note, we also support these amendments proposed by the Natural Resources Defense Council and the Environmental Defense Fund to provide solutions to ensure the timely and equitable buildout of the state's charging infrastructure.

1. The provision of make-ready electrical infrastructure on the utility side of the meter reduces the cost of installing charging infrastructure by ~25% and provides more uniform and predictable utility support than existing utility rules.

a. Requires utilities to construct the utility-side infrastructure between the meter and grid necessary to charge EVs as part of the normal course of business. A logical extension of existing line-extension rules, make-ready infrastructure rules for EV charging provide a more predictable foundation upon which private and public investments can be made to install charging infrastructure that brings on load that can put downward pressure on rates to benefit all customers.

2. Rates and vehicle grid integration reduces the costs of charging for consumers and businesses, lowering household fuel expenditures and attracting private capital, and ensures EVs become an asset to the grid, charging at times when there is spare capacity and abundant renewable generation.

a. Requires utilities to offer customers affordable, equitable, and sustainable rates for residential, commercial and public EV charging that mitigate the problem posed by existing demand charges that result in bills that are unjustifiably high. Also requires utility to implement EV grid integration programs that take advantage of the flexible nature of EV load to support the operation of the electric grid.

3. Fulfilling the obligation to serve in a timeframe that aligns with state policy prevents troubling backlogs in energizing charging stations that could undermine compliance with state and federal vehicle standards and requires utilities to strategically plan to fulfil their obligation to serve.

a. Requires utilities to make grid investments necessary to meet relevant federal, state, regional, and local climate, air quality, and equity goals, laws, and regulations. Establishes reasonable average and minimum target energization timelines, holds utilities accountable to meet those timelines, including using load management and non-wires alternatives that can reduce costs and speed energization, requires utilities to hire and build the career pipeline necessary to build the grid we need to support the electrification of the transportation and building sector, and ensures cost recovery that aligns with state policy.

--

Doug O'Malley, Director
Environment New Jersey

██████████
New Brunswick, NJ 08901

Cell: ██████████

Twitter: @DougOMalleyENJ

Pronouns: he/him/his



Doug O'Malley, Director
Senate Environment Committee
November 20, 2023
S2978 Testimony

Environment New Jersey wants to deeply thank the work of the Chairman Smith and the Senate committee staff to craft a 100% Clean Electricity Standard that will move New Jersey towards a 100% clean energy future and away from fossil fuel generation. The rationale couldn't be more clear – we're in a climate crisis and we are experiencing what is likely the hottest record in recorded human history. Which is why it's even more critical to get this legislation right and ensure it is strengthened – we need legislation that incentivizes in-state renewables over out-of-state energy and prevents fossil fuel generation and co-pollutants, such as arsenic, mercury and other contaminants.

A) We appreciate the clarity around the “clean energy production facility” but we would urge an explicit requirement to restrict facilities that produce or use fossil fuels as a source. Our suggestion to make it clear that fossil fuels will not be eligible for clean energy credits is to append the following language (shown in bold) to the current definition of a “Clean energy production facility”

“Clean electricity production facility” means: (1) a nuclear, wind, solar, or hydroelectric electricity production facility; or (2) any other electricity production facility that generates electric energy in a manner that produces no more than a de minimis level, as determined by the department, of net greenhouse gas emissions or co-pollutant emissions at the point of generation or at any point in the fuel supply chain of the facility. **“Clean electricity production facility” shall not include a resource recovery facility or a facility that uses as a source, or helps to produce, fossil fuel.**

B) We support the amendments proposed by the NJ Environmental Justice Alliance and the Ironbound Community Corporation to strengthen the definition of a “clean energy production facility” and hope to build on the progress of restricting incinerators from the definition by expanding protections to include:

- “De minimis” regarding its use relative to co-pollutants, must be given a more specific definition to ensure that the health of communities that are historically impacted by co-pollutants are protected, with specifically a very close to zero in terms of pounds of emissions in any given hour.
- Restricting the concept of “net” emissions, where a facility could produce significant pollution, often in an overburdened community, and still claim zero “net” emissions by using offsets in other locations.
- Replacing the conjunction “or” with “and” will ensure the clean energy, health, and equity goals of the bill are safeguarded and achieved to ensure that facilities don't produce greenhouse gas emissions or co-pollutants and that the facilities would both emit no emissions at the point of generation and at any point in the fuel supply chain.

C) While the disqualification of incinerators from the Class II REC program if they include substantive permit violations is promising, there should be additional clarity.

- The disqualification be premised on the violation, rather than "final agency action" on the violation. Many violations, even substantive ones, only result in a Notice of Violation which is not "agency action." And even when NJDEP does take action on serious violations, like the iodine plumes above Covanta's Newark facility, that can go through a process that takes years before they result in "final" agency action. There's no need to wait to act on these violations, because there is no doubt as to whether these violations occurred: they are detected by continuous monitoring systems, and reported by the facility itself.
- There should be a nondiscretionary process for disqualification, where NJDEP is required to report substantive violations to the Board, and the Board is required to disqualify the facility upon receipt.

Proposed legislative language would be as follows:

"Substantive permit violation" means a violation that resulted in, or likely resulted in, air, water, or soil pollution in excess of the allowable limits under the relevant permit or other approval, as determined by the Department of Environmental Protection, including the following:

- Emission of any air pollutant above the allowable emission rate or concentration, lasting longer than 30 minutes
- Any violation that is the third or subsequent instance that the facility has violated the same permit condition
- Any violation of any condition imposed pursuant to the Environmental Justice Law (NJSA 13:1D-157 to 161) or the Environmental Justice Regulations (NJAC 7:1C)

D) There is broad concern that the clean energy credits don't require additionality as the clean energy credits can be paid to already operating facilities, which reduces the impacts of greenhouse gas mitigation, that are both outside of New Jersey and have long been in operation.

- Specify that out-of-state projects that are eligible for Clean Energy Credits (CEACs) must be placed in service after the effective date of the act.
- BPU should also be given authority to adjust to respond to changes in load growth (especially where electrification increases would result in 1% growth in load). The legislation should be amended to require that the BPU recalculate the estimated 2035 percentage every three years based on changes to the load growth forecast so that it can take steps to increase carbon-free purchases if load growth increases above 1%.
- Most other New Jersey energy law contain provisions that require BPU to consider in-state economic and environmental benefits in the BPU's program administration; S2978 should be amended with similar provisions.

Thank you to the Chair and the Committee for consideration of these alterations to the 100% Clean Electricity Standard legislation.

Testimony of Prof. Jesse D. Jenkins, Princeton University

Submitted to the Committee on Environment and Energy, New Jersey State Senate

November 20th, 2023

Chairman Smith, honorable members of the committee. I am submitting this testimony to provide important context for S.2978, the *New Jersey Clean Energy Act of 2023*. It is my professional assessment that the proposed legislation offers an opportunity for New Jersey to re-establish itself as clean energy leader, continue to expand the state's clean electricity sector, and help meet state climate goals while maintaining the affordability and reliability of New Jersey's electricity supply.

By way of background, my name is Dr. Jesse D. Jenkins. I am a macro-scale energy systems engineer and an assistant professor at Princeton University. I hold joint appointments in the Department of Mechanical and Aerospace Engineering and the Andlinger Center for Energy and Environment, and I lead the Princeton ZERO Lab (Zero-carbon Energy systems Research and Optimization Laboratory), which focuses on improving and applying optimization-based energy systems models to evaluate and optimize low-carbon energy technologies, guide investment and research in innovative energy technologies, and generate insights to improve energy and climate policy and planning decisions. I earned PhD and SM degrees from the Massachusetts Institute of Technology, worked previously as a postdoctoral fellow at the Harvard Kennedy School, and spent six years as an energy and climate policy analyst prior to embarking on my academic career. A full set of my current professional affiliations and experience can be found at <https://www.linkedin.com/in/jessedjenkins/>. I recently served on the National Academies of Science Engineering and Medicine expert committee on *Accelerating Decarbonization of the U.S. Energy System*, was a principal investigator and lead author of Princeton's landmark *Net-Zero America* study, and currently lead the REPEAT Project (repeatproject.org), which provides regular, timely, and independent environmental and economic evaluation of federal energy and climate policies as they're proposed and enacted. **I must note that the views expressed in this testimony are my own, and I am not speaking as an official representative of Princeton University.**

The *New Jersey Clean Energy Act of 2023* would build on New Jersey’s established clean electricity policies and take full advantage of substantial new federal tax incentives to transition the State’s electricity supply to 100% clean electricity by 2035.

The proposed law would require New Jersey electricity suppliers to procure enough qualified clean electricity to supply 100% of annual electricity sales by 2035, with interim requirements from 2027 onwards. This law would build on and incorporate clean energy contributions from current State policies supporting solar PV, offshore wind, and existing nuclear power plants. (Each megawatt-hour of generation produced by resources qualifying for Class I RECs, S-RECs, T-RECs, O-RECs and ZECs under existing state programs would reduce an electricity supplier’s obligations to submit clean energy attribute certificates (CEACs) under the new Clean Electricity Standard established by S.2978.)

The law would establish a new goal to secure 65% of New Jersey’s electricity supply from clean generators within the state, which ZERO Lab estimates would support about 24,000 family-sustaining, prevailing wage jobs building and operating clean electricity facilities in the state by 2035. All projects over one megawatt in size would be required to pay prevailing wages and employ apprentice labor, which also ensures such projects can take full advantage of tax incentives provided by the federal *Inflation Reduction Act of 2022*.¹

The federal *Inflation Reduction Act* effectively puts all clean electricity resources on sale, saving New Jersey electricity consumers billions of dollars and setting the stage to increase the State’s clean energy ambition with passage of S.2978.² The renewed and extended production tax credit and investment tax credit will reduce the cost of offshore wind and both distributed and utility-scale solar PV by approximately 30-50%. The law also establishes a new tax credit to preserve existing nuclear power plants, including New Jersey’s Salem and Hope Creek generators. Beginning in 2024, this federal tax credit will pay New Jersey’s nuclear plant owners up \$415

¹ Clean electricity projects that do not meet prevailing wage and apprenticeships requirements established by the *Inflation Reduction Act* are eligible for only 20% of the value of the full tax credit available for projects to do meet such requirements.

² For a detailed summary of provisions in the federal legislation, see <http://bit.ly/REPEAT-Policies>

24x

million annually³, which should be sufficient to reduce requirements for state ZEC payments to zero while the federal tax credit is in place, saving New Jersey up to \$300 million each year from 2024-2032.

ZERO Lab recently completed detailed modelling of the potential impacts of the *New Jersey Clean Energy Act of 2023*. This analysis makes use of an open-source electricity system capacity expansion planning model developed jointly at Princeton and MIT⁴ and is based on two prior ZERO Lab studies on New Jersey pathways to carbon-free electricity supply and rapid decarbonization options in the PJM region.⁵ This analysis estimates that under the proposed law:

- New Jersey electricity customers would pay *less* for their electricity supply in 2035 than in 2019.⁶
- The law would ensure *more* clean electricity would be generated in the state in 2035 than is generated by all resources (including fossil power plants) today⁷, ensuring a steadily expanding market for clean energy investment and jobs in the state.
- Approximately 8,600 MW of new large-scale solar (>5 MW), 2,500 MW of small-scale solar (<5 MW), 7,500 MW of offshore wind, and 1,600 MW of storage capacity would be built in New Jersey by 2035.
- The law would support about 24,000 jobs building, operating, and maintaining electricity generators in New Jersey in 2035, including ~10,300 in large-scale solar, at least 3,300 in distributed solar, and ~7,000 in offshore wind, while preserving all employment at New Jersey nuclear plants and 96% of employment at natural gas plants in the state.
- Over 90% of subsidies will go to clean electricity generators in New Jersey, supporting investment and jobs in the state.

³ Based on average annual generation from the Salem and Hope Creek reactors from 2017-2022.

⁴ See <http://genx.mit.edu>

⁵ See Princeton ZERO Lab, "Cleaner, Faster, Cheaper: Impacts of the Inflation Reduction Act and a Blueprint for Rapid Decarbonization in the PJM Interconnection," December 12, 2022, and "New Jersey's Pathway to a 100% Carbon-Free Electricity Supply: Policy and Technology Choices Through 2050," March 14, 2022. Results for this fact sheet are based on the assumptions and system setup used in the December 2022 report. Specifically, we modeled the post-IRA scenario from the March 2022 report modified to include the addition of a 100% CES for New Jersey in the 2035 planning period consistent with S.2978.

⁶ Estimated costs are for bulk electricity supply, transmission, and policy requirements are ~\$70/MWh in 2035 or about 11% lower than 2019 historical costs of \$79/MWh (in 2022 real dollars). A pessimistic case with high wind/solar/battery cost assumptions would cost \$77/MWh, still about 2.5% less than 2019 costs. This estimate excludes distribution network and retailing costs, which today are about 55% of residential customer retail electricity bills or approximately \$95/MWh, and would be unaffected by the proposed law.

⁷ Our analysis estimates about 85 terawatt-hours would be generated by in-state renewable and nuclear generators in 2035, which compares to 73 terawatt-hours in total (33 from nuclear and renewables) in 2019 and 66 terawatt-hours (36 from nuclear and renewables) in 2021.

Figure 1. Modeled least-cost New Jersey 100% carbon-free electricity supply mix in 2035

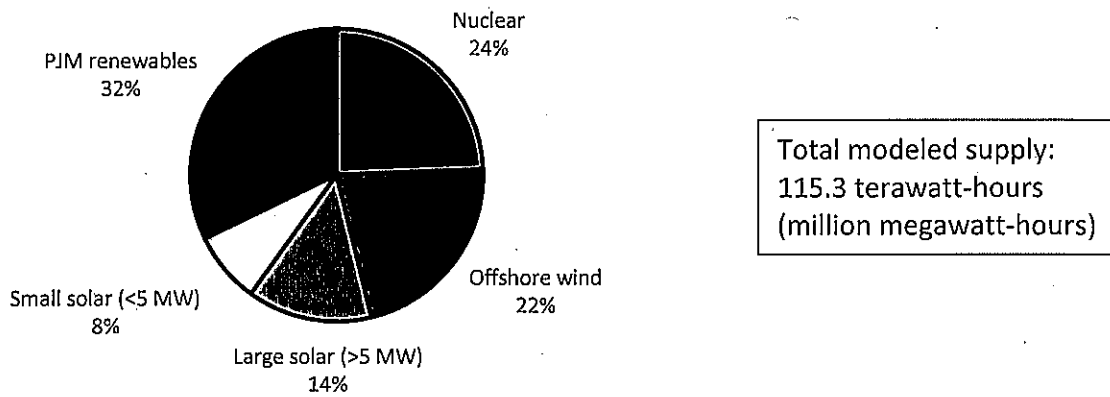


Figure 2. Modeled New Jersey bulk electricity supply cost compared to 2019 historical cost (\$/MWh)^a

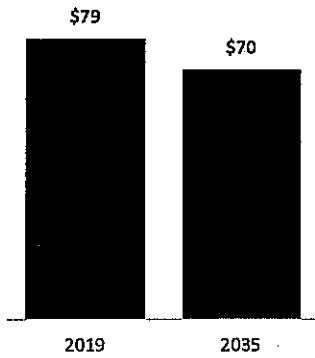
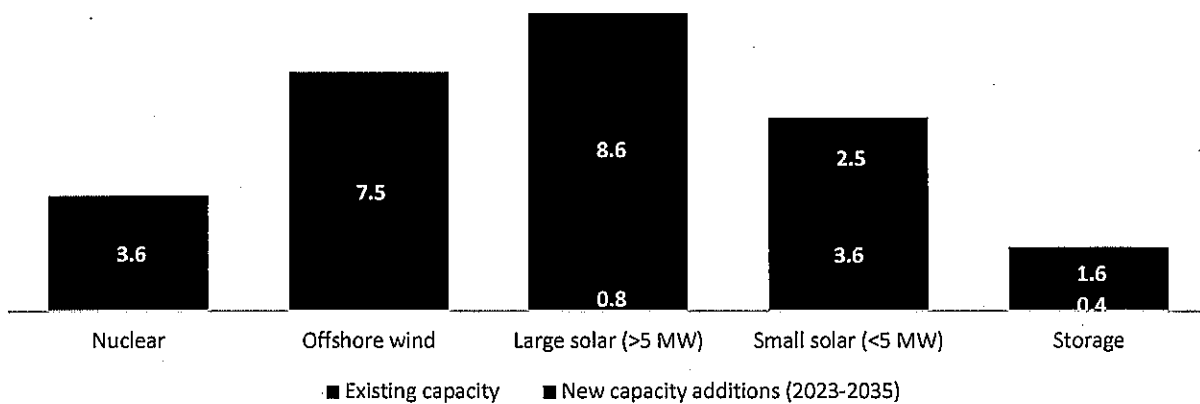


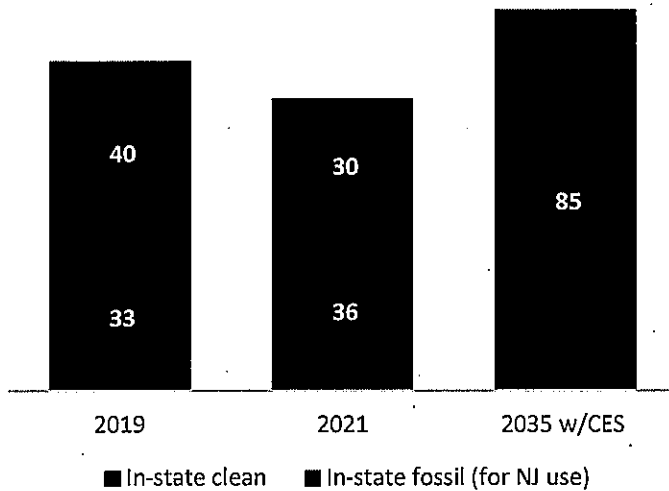
Figure 3. Modeled New Jersey clean energy capacity in 2035 (gigawatts)



^a See Note 6 above. Reported in 2022 real dollars.

26x

Figure 4: Modeled New Jersey in-state renewable and nuclear generation in 2035 compared to historical 2019 and 2021 in-state generation (terawatt-hours per year).



It is important to note that even as the state relies more heavily in wind and solar power, the *New Jersey Clean Energy Act* will ensure continued reliability of the state’s electricity supply in three key ways:

First, the proposed law **preserves the state’s existing nuclear power plants**, ensuring they continue to provide reliable, emissions-free electricity for New Jersey and a foundation for more rapid emissions reductions.

Second, the legislation **permits the use of existing natural gas plants to meet reliability needs and does not require retirement of gas generators until clean, reliable replacements are available**. The new Clean Electricity Standard established by S.2978 requires renewable and carbon-free resources to supply 100% of New Jersey’s demand on *an annual, volumetric basis*, but it does *not* require that electricity consumption in New Jersey is met by clean generation *in every hour* of the year. As such, S.2978 would permit existing natural gas plants in New Jersey to operate when necessary to meet reliability needs within the state or PJM’s EMAAC capacity delivery region, while substantially reducing their generation and resulting pollution overall. Power generated during these periods would be claimed by electricity suppliers outside the state while New Jersey suppliers would secure additional clean electricity in other time periods to meet their annual requirement. This

27x

flexibility should be considered a feature, not a bug, as it allows New Jersey to rapidly and confidently transition to 100% clean supply on an annual basis in just 12 years, *without waiting* for the commercialization and large-scale deployment of nascent firm, zero-carbon technologies (such as long-duration storage or advanced nuclear).

Third, S.2978 enacts a first-in-the-nation commitment to phase-out polluting gas generators entirely and meet 100% of our reliability needs with carbon-free resources by 2045. We don't have to wait until 2045 to get started, as the legislation authorizes the BPU to create new programs to support near-term deployment of innovative carbon-free electricity technologies to help meet New Jersey's reliability needs, including long-duration energy storage, advanced nuclear power, or green hydrogen. I want to stress that this commitment is truly historic and would raise the bar for state action across the country. No other state with a 100% clean electricity requirement has committed to meet all reliability needs with carbon-free resources.

I thus commend Chairman Smith and Senator Stanfield for proposing to seize this opportunity to transition faster to 100% renewable and carbon-free electricity while preserving affordability and reliability for New Jersey electricity consumers and businesses.

I thank all of the members of the Committee for considering this testimony and I would be happy to answer any questions the Committee or its staff may have via further correspondence. Thank you for your continued leadership to protect New Jersey's environment and our public health.

**New Jersey Sustainable Business Council Testimony on S2978 (Smith) Revises
State Renewable Energy Portfolio Standards**

**Dr. Rebecca Lubot with Lubot Strategies testifying on behalf of the New
Jersey Sustainable Business Council**

November 20, 2023

NJSBC is a state affiliate of the American Sustainable Business Network. ASBN and its association members collectively *represent over 250,000 businesses nationally*. While these companies reflect a diverse mix of size, geography, and industries, they all share a commitment to advancing a combination of market innovation and policy change to create a more just and sustainable economy.

The businesses in our network are leading the transition from a narrow focus on maximizing short-term profits for shareholders to a broader definition of success that creates value for all key stakeholders within a triple bottom line framework of people, planet, and profit. We view this transition as going hand in hand with the transition to a clean energy economy. Both transitions are addressing increasingly urgent needs; both are creating opportunities for shared prosperity, improved public health, and a cleaner environment for our families and future generations.

That's why NJSBC is a proud member of Clean Energy Jobs NJ Coalition and shares the Coalition's policy position on S2978: to support a 100% Clean Energy Standard that improves air quality by reducing emissions, supports in-state job creation, provides cost-savings, and improves public health.

The Coalition supports: 1) strong job and labor provisions to support the creation of in-state jobs and a high in-state generation requirement, and 2) a strong definition of "clean electricity production facilities" that excludes facilities that emit co-pollutants or engage in trash incineration. Public health must be central to the meaning of clean energy and the bill must prioritize the protection of environmental justice (EJ) communities. No new facilities or additional pollution should be allowed in overburdened communities. In short, clean must mean clean.

NJSBC applauds the Legislature's efforts to codify New Jersey's nation-leading goal of 100% clean energy by 2035, which is critical to climate change mitigation.

This codification will create policy certainty, ensuring that New Jersey continues to be a competitive place to do business. It will send a clear message that the State is open to clean energy investment over the long term, thereby attracting both new investment and innovation. And it also will promote energy efficiency throughout supply chains.

The New Jersey Sustainable Business Council supports S2978 and appreciates Senator Smith's leadership and the Committee's efforts toward creating value for all stakeholders within that triple bottom line framework of people, planet, and profit.

The Dangers of Net-Zero Emissions (S2978/A4658)

Ken Dolsky, Parsippany

- Steering Committee of EmpowerNJ
- Co-leader of the Don't Gas the Meadowlands Coalition
- Vice President of New Jersey Forest Watch

The core issue of climate change is GHG emissions and their build-up in the atmosphere. In order to mitigate we must stop emissions and reduce GHG levels in the atmosphere.

- Therefore, net-zero emissions (emitting as much GHG as is removed) is **not a climate solution**. It is only a **mathematical milestone** on the way to zero-emissions and it is **very dangerous to talk about it as if it solves our climate problem**.
- The language used by the IPCC in its **2018 IPCC special report – Global Warming of 1.5 degrees C**, regarding its 2050 target is: **“Limiting warming to 1.5°C implies reaching net zero CO2 emissions globally around 2050 and concurrent deep reductions in emissions of non-CO2 forcings, particularly methane (high confidence)”**. Because as we all know, **methane captures 86 times more heat than CO2 over a 20-year period**.
- **One immediate problem is that the fossil fuel industry (mainly the gas industry) is ignoring the second part of this requirement and is only focusing on achieving the first part - net zero carbon emissions.**
- Yes, at some point the world has to achieve net-zero CO2 emissions but **alone, it is completely insufficient to address the climate change problem for two reasons:**
- First, it does not address the methane problem. Since about 2010 the global rate of methane emissions has been accelerating every year with no signs of slowing down. Using the 20-year global warming power value for methane, **methane is responsible for over 30% of US climate warming emissions.**
- Second, even if we stopped adding CO2 to the atmosphere today, the world will continue to warm for centuries and the impacts from climate change will continue to become more severe, since CO2 stays in the atmosphere for hundreds of years or more and **will continue to increase the earth's temperature.**
- Therefore, **we must reach net-zero by only using zero-emissions technologies**, which will reduce total atmospheric carbon. And we must not use technologies such as RNG to achieve net-zero as they only make it **more costly and take longer to convert to zero-emissions technologies.**
- And the problem is not just CO2 and methane. NOx is a powerful GHG with a lifetime of about 120 years that **captures almost 300 times the amount of heat as CO2** and is produced by burning hydrogen. So, achieving zero emissions means no burning of H2. (May be better off burning methane.)
- Mitigating climate change requires reducing GHGs in the atmosphere. This will best be accomplished through the use of true zero-emissions technologies such as wind, solar, hydroelectric, heat pumps and storage, and protecting natural carbon sinks, mainly wetlands and **forests.**

To Whom It May Concern,

My name is Thomas McNair and I am the president of the Farm Crest Acres Association, Inc. We are a homeowners association with two small lakes and two dams. Our association includes 108 homes and an annual budget of about \$45,000. In 2021, we began the remediation of both our upper and lower dams. As the remediation progressed, it was discovered that additional work had to be done on the upper lake dam. When the work was completed, we exhausted the original state loan amount for our upper dam of \$600,000. We still owed the contractor an additional \$160,000. We immediately applied for an additional \$350,000 loan which was approved by the DEP in January of 2022. As the months went by and these funds did not become available, we were forced to privately fund the \$160,000. We have now accrued interest expense of almost \$11,000. In addition, we cannot begin to repay the money the state has already loaned us so we are accruing more interest on the state-borrowed funds. In conclusion, we desperately need S3258 and A4605 to be passed during this legislative session. This will allow us to complete the remediation process, repay our privately funded loans, close out all of our state loans and begin repaying them. Then we will have dams that are in full compliance with the latest DEP requirements.

Thank you,

Thomas McNair



Covanta Union, Inc.

Dear Ms. Wilds,

We (Beginning World Changers, Inc.) are aware that the New Jersey State Senate Environment Energy Committee is hearing a bill that would affect waste-to-energy facilities (including Covanta). As such, we wanted to share our involvement with Covanta in our community.

As a (501(c) (3) nonprofit organization based in New Jersey, our mission is to make available food, clothing, and linkages to shelter for economically challenged individuals, families, and emancipated youths, seniors, and veterans, we have had our share of challenges in regards helping those who are living on the streets, providing referrals to shelter and other agencies that could provide help to those in need, and our feeding program that we provide homemade cooked meals from scratch to the communities that are in Rahway and Newark NJ. Covanta has been an amazing Partner in the efforts to help those in need.

As part of the programs, we go into the streets of the communities, train stations, and shelters to help those in need along their journey back into society with a hand up, not a hand. Covanta has been a great support to our mission, also coming to our events at various locations, speaking, and helping in serving those in need with nothing but love and respect. They have been incredibly supportive and a collaborative partner in their efforts.

As we work to expand our programs, Covanta will be one of our partners that we can rely on, this relationship is beyond a business partnership, but rather two community partners with the same mission to improve our city with awesome testimonies from those who have turned their lives around.

We look forward to working with Covanta for years to come as we continue our pursuit to improve communities.

Sincerely,

Frank Cunningham

Frank Cunningham, President
Beginning World Changers, Inc.

Beginning World Changers Inc.
329 Prospect Ave Dunellen New Jersey, 08812
Beginningworldchangers@yahoo.com
Beginningworldchangers.org
(908) 463-8005

32x



Rev. Dr. Marti Robinson, Esq., D. Min. ~ Pastor

November 17, 2023

Dear NJ Senate Environment & Energy Committee:

I am aware that the New Jersey Senate Environment and Energy committee is hearing a bill that would affect waste-to-energy facilities (including Covanta). As such, we wanted to share our involvement with Covanta in our community.

As a Pastor and member of the faith community in Rahway, we serve many members of our community who have experienced food insecurities and financial distress due to COVID, inflation and a host of challenges. Covanta has been an amazing partner in the effort to combat and in most cases eliminate these challenges facing so many in our community. They have partnered with the Ebenezer AME Church family to provide thousands of turkeys and other food items during Thanksgiving, Christmas and other important holidays. In addition, they have provided educational toys during our annual toy drive as well as school supplies and backpacks for our annual Back To School Event.

They have been a good neighbor in educating the community about their company, their purpose and their vision. Their commitment extends beyond the physical structure and into the community, where volunteers from Covanta have been "helping hands" in our community-wide Neighborhood Clean-Up Day to help beautify the community they serve.

As we work to expand our partnership in many areas, Covanta will be one of our partners that we continue to rely on. This relationship supersedes a business partnership, but rather it underscores two community partners both with the same mission to improve the city of Rahway and the lives of its residents.

We look forward to working with Covanta for years to come.

Sincerely,

Rev. Dr. Marti Robinson, Esq., D.Min.
Pastor & Servant Leader
Chair, Rahway Social Justice Commission



LS Power Testimony in Opposition to Senate Bill 3992

The bill has several key flaws and LS Power is opposed.

1. New Jersey utilities are a member of PJM, which is responsible for robust regional planning for New Jersey. NJ BPU and PJM recently has a successful history of regional planning for offshore wind transmission.

The bill calls on existing "public utilities" to put together a transmission and distribution plan for the state.

The bill undercuts the important role of regional independent planning for transmission. The public utilities are not independent- PJM and the BPU is independent. LS Power believes that PjM is the entity that must do planning for transmission.

2). The bill calls for existing public utilities to "implement" the plan. The bill contains discriminatory and anti competitive intent, as existing utilities "implement" the plan. New entrants are excluded. The legislature should instead correct existing statute that seems that public utilities are only entities that own both transmission and distribution. It should be that public utilities in NJ are entities that own transmission or distribution. The wording of bill creates barriers to entry for public utilities to "implement", and locks out new entrants. LS Power opposes because the bill is anti competitive.

3). The bill undercuts not only the role of PJM, locks out competition, and also undercuts the role of BPU and FERC prudence review. For that reason, LS Power also opposes weakening the BPU.

BPU should have full oversight of transmission costs. Ferc is also currently seeking more oversight of New Jersey transmission costs. The language in bill could be used to weaken BPU oversight as well as FERC's prudence review of transmission costs. For that reason, LS Power is also opposed.

LS power would welcome opportunity for more substantive conversation with bill sponsors.

Thank you.

William Caruso

Managing Director

128 W. State Street

Trenton, NJ 08608

609-310-4000

William.Caruso@archerpublicaffairs.com

www.archerpublicaffairs.com

On behalf of:

Sharon Segner

Vice President

LS Power

34x



36 W. Main Street, Suite 203, Freehold, NJ 07728
609-392-1000 • Fax 609-396-4231 • www.njua.com

November 20, 2023

RE: Senate Bill 3992

Dear Chairman Smith and Members of the Senate Environment and Energy Committee:

On behalf of the New Jersey Utilities Association (NJUA), the statewide trade association for New Jersey's investor-owned utilities that provide essential water, wastewater, electric, natural gas, and telecommunications services throughout the state, I write to offer our comments on behalf of NJUA's Electric Distribution Company (EDC) members regarding Senate Bill 3992, requiring each electric public utility in the State to develop and implement a plan to modernize the electric transmission and distribution system within its territory.

As the committee is aware, the New Jersey Board of Public Utilities (NJBPU) opened a docket to develop and implement a systemic Grid Modernization plan in accordance with strategies outlined in the 2019 New Jersey Energy Master Plan (NJEMP). In connection with this proceeding, the Board noticed and subsequently held a series of public meetings to collect stakeholder input on potential improvements to current distribution grid interconnection processes. NJUA's EDC members collectively support the Board's efforts to achieve Grid Modernization.

As the Board is currently undergoing its Grid Modernization proceeding, each of NJUA's electric utility members are engaged and participating in the Board's ongoing process. Grid modernization is a key component to the state's 2019 Energy Master Plan for 7,500 megawatts (MW) of offshore wind, 17,000 MW of solar energy and 2,500 MW of energy storage by 2035. NJUA's electric utility members are collectively focused on protecting the safety, integrity, and reliability of the electric grid, while facilitating the achievement of the State's ambitious clean energy goals, accommodating customers' growing interest in DERs, and making the Interconnection application process more efficient and effective for all parties. An important aspect of grid modernization is the need to allow for higher DER adoption levels to achieve decarbonized, resilient and reliable energy systems. The BPU's support of grid modernization and investment in additional electrical grid capacity is crucial for decarbonization. Additionally, the EDCs strongly support the goal of streamlining and enhancing the interconnection processes to facilitate the interconnection of DERs and the modernization of the State's electric grid.

We appreciate the opportunity to provide comments and look forward to continuing our work to modernize the grid to accommodate more renewables.

Very truly yours,

Richard Henning
President & CEO

Aqua New Jersey, Inc. • Atlantic City Electric Company • Atlantic City Sewerage Company
Gordon's Corner Water Company • Jersey Central Power & Light, A FirstEnergy Company • Middlesex Water Company
New Jersey American Water • New Jersey Natural Gas • Public Service Electric & Gas Company • Rockland Electric Company
• South Jersey Industries Utilities • Veolia • Verizon New Jersey

35x

Page 2

New Jersey Utilities Association
rhenning@njua.com

36 X



TO: The Honorable Members of the Environment and Energy Committee
New Jersey State Senate

FROM: Larry Barth
Director, Corporate Strategy
New Jersey Resources

RE: Testimony Senate Bill 2978, legislation that would reform New Jersey's renewable energy portfolio standards.

DATE: November 20, 2023

On behalf of New Jersey Resources (NJR), we thank you for the opportunity to comment on Senate Bill 2978. The bill could result in the potential loss of billions of dollars of ratepayer funding exported outside of New Jersey without delivering the sought after emission reductions while undermining the approximately 7,000 solar jobs that took more than a decade to establish in our state, in a growing competitive national job market.

NJR is a Fortune 1000 diversified energy infrastructure company headquartered in Monmouth County. We employ nearly 1,300 employees, the majority of whom are union members and residents of New Jersey. NJR's subsidiaries include New Jersey Natural Gas (NJNG), which serves nearly 570,000 customers; and NJR Clean Energy Ventures (CEV), our subsidiary dedicated to renewable energy investments located in all 21 of New Jersey's counties.

NJR supports New Jersey's emissions reduction goals and is committed to being a partner in the State's clean energy journey. NJRCEV, a significant supporter of union contractors, is today the largest owner-operator of commercial solar in the entire state of New Jersey with over 460 megawatts in service. NJNG operates one of the most environmentally sound natural gas pipeline distribution systems in the country as a result of our vast investment in infrastructure modernization and upgrades and has long been a leader in driving energy efficiency. These investments have allowed NJR to reduce its operational emissions in New Jersey by nearly 60% from 2006 levels, in line with our ambitious goal of achieving Net-Zero carbon emissions by 2050 for our New Jersey operations.

With our company's environmental leadership and experience investing in real assets to deliver tangible emissions reductions for New Jersey, we are bringing the following issues in S-2978 to the attention of the Legislature:

1. The bill provides no guarantee that the mandate to purchase renewable energy credits (Clean Energy Attributes Certificates or CEACs) would deliver any additional renewable energy to New Jersey or reduce real emissions in New Jersey. The proposed CEAC purchases could come from projects that are already built and operating, meaning these purchases would not fund new renewable projects or additional clean energy. As is the case with Class 1 REC purchases today, credits could be produced from a midwestern wind farm that was constructed 10 years ago, New Jersey's purchase of those paper credits produces no incremental emissions reduction. We estimate New Jersey, before changes contemplated in this bill, will already be spending close to \$750 million per year by 2025, exacerbated by delays impeding in-state clean energy deployment. Additionally, increased electric demand without a dramatic increase of in-state New Jersey renewables would likely result in increased emissions. The 2019 EMP established an annual electric generation goal of approximately a 75 percent increase by 2035 from the 2020 level. This is largely due to a



dramatic increase in electric vehicle sales. However, the projected rate of emission reduction as represented in the BPU Building Decarbonization Straw Proposal released in 2023, and supported by EIA Annual Energy Outlook, indicates PJM generation forecasts only a 24 percent reduction in the marginal emission rate by 2035 and a 50 percent reduction by 2050. This means in absence of building new renewable generation in NJ or new dedicated clean resources elsewhere in the PJM region with ability to be delivered to NJ, increased New Jersey electric demand will continue to be served by PJM imports with significant CO₂ emissions as well as co-pollutants such as NO_x, SO₂ and particulate matter.

2. S-2978 would create a potentially escalating obligation for New Jersey to buy paper credits from out of state renewable projects, burdening New Jersey families and businesses with tens of billions of dollars in potential new utility bill costs while producing no clear emissions benefit. The bill is contrary to the policy goal of the State's RPS and Energy Master Plan: to incentivize renewable energy development in New Jersey, directly impacting the clean energy generation profile of our state and supporting a clean energy economy.
3. The 65% in-state requirement does not provide a sufficient long-term pathway for ongoing solar development and investment in the State. The BPU is given full discretion to judge whether the in-state goal will be met in "future" years, while such future year assessments are subject to major uncertainties on such variables as the growth in retail electric sales, and the trajectory offshore wind installations. The bill must include a complementary program that mandates and implements annual in-state solar capacity targets, to avoid eroded confidence in the future of the State's in-state solar market. The adverse long-term impacts and risks to green jobs and green economy cannot be overlooked. In state solar should be required to take priority over out of state credit purchases.
4. The bill does not consider environmental justice concerns. New Jersey has the distinction of passing the most progressive environmental justice legislation in the country. S-2978 risks undermining that commitment by diverting investment from new in-state renewable generation to paper credits for out-of-state emission reductions. It is inconsistent that the legislature would require the NJDEP to evaluate the environmental and public health impacts of its actions but fail to do the same before passing legislation that would adopt a market-based approach to address the need for cleaner electricity.

Finally, the statement in the bill that the State is close to achieving 75% of its clean energy from non-emitting sources is inconsistent with how the NJDEP measures emissions in New Jersey's electricity sector, which properly reflects the real time operations of the electric system including natural gas generation located in New Jersey as well as net electricity imports from PJM which together meet approximately two thirds of New Jersey's electricity needs.

To ensure integrity and accuracy in emissions accounting and reporting, the legislation should affirm NJDEP's authority in reporting on New Jersey emissions as defined in regulations (NJAC 26-2:C-41), which acknowledge New Jersey's operational integration within the PJM market. The bill should further require DEP to ensure that notwithstanding any changes required by this bill, only genuine emissions reductions will be counted and with no double counting. We have significant concerns about the ability of this legislation to claim 100% clean energy without actually delivering 100% clean energy to New Jersey.

As the leader in commercial-scale solar investment in New Jersey, with a vested interest in our State's economic growth and commitment to meeting our environmental goals, we urge the committee to ensure this bill – and any other climate or clean energy legislation that may come before it – results in a stronger renewable economy in the state, directs incentives that are funded by New Jersey's taxpayers or ratepayers toward green



job and clean energy development within the state instead of benefitting other states, and achieves real emissions reductions in New Jersey.

Thank you once again for the opportunity to comment.

New Jersey Resources

39x

Thank you for allowing me the chance to speak on behalf of my patients, my community. I am Elizabeth Cerceo, MD. I am presenting today in my role as founding member of Clinicians for Climate Action NJ and my views do not necessarily reflect those of my employer.

As a physician practicing in an environmental justice community, I can assure you that the impacts of climate change and air pollution resulting from fossil fuel combustion are impacting the health of New Jerseyans today and this will only increase in the future.

Decreasing air pollutions have direct and immediate health co-benefits to the communities that enact the changes. would substantially outweigh implementation costs. Often costs of a change are considered as a standalone expense without the context of the millions of dollars saved in public health. The Clean Air Act in the 1970s resulted in a savings of \$30 for every \$1 spent. Time and again, public health measures, provisions that provide for clean air, water, and soil are found to be cheaper than polluting because people maintain their health.

We are only now beginning to understand the full scope of the impact of fossil fuel pollution on public health. WHO (who.int) estimates air pollution from fossil fuel combustion result in 13.7 million premature deaths, which amounts to 1 in 4 deaths being preventable. Many times more people experience poor health with everything from heart disease to cancer and increased hospitalizations. The health effects of many toxics are often only uncovered years after millions have been exposed. Think about the tobacco industry.

Unlike tobacco, we now know that everyone is at risk though some more than others with children, pregnant women, disadvantaged communities, the elderly and those with other illnesses being disproportionately affected.

We also have to ensure that our vulnerable and economically disenfranchised are not left behind and the Clean Energy Standard helps to protect our environmental justice communities. Black and brown communities bear a disproportionate burden of harms. With the EPA definition of clean air, K36% of Americans (119.6 million) breathe unhealthy air. Under the WHO standard definition, 99% of us breathe dirty air. Many counties, including Camden County, where I live currently get failing grades for air pollution. Now 1 in 3 Americans live in places with unhealthy levels of air pollution.

A goal of decreasing energy costs is an additional benefit to all New Jerseyans but would especially support EJ communities. As dangerous heat waves have shown, not having access to cooling due to lack of air conditioning or inability to pay for electricity can be deadly and cheaper, cleaner energy is part of the solution to go to the root cause of global warming and mitigating the health impacts.

The supposition that market should dictate decisions ignores the lives lost and the illness caused by fossil fuel pollution. Rapid adoption of a Clean Energy Standard is part of an important public health agenda where the lives, health, and well-being of all New Jerseyans are valued. As a physician, a scientist, and a mother, I am in full support of Bill S-2978 and I urge this legislature to value the lives of our neighbors similarly.

40x



MAREC
ACTION

November 20, 2023

Bill S2978 – SUPPORT WITH AMENDMENTS

Dear Chairman Smith and members of the Senate Environment and Energy Committee:

The American Clean Power Association (ACP) is the leading voice of today's multi-tech clean energy industry, representing over 800 energy storage, wind, utility-scale solar, green hydrogen and transmission companies. ACP is committed to meeting America's national security, economic and climate goals with fast-growing, low-cost, and reliable domestic power.

MAREC Action is a coalition of utility-scale solar, wind, and battery storage developers, wind turbine and solar panel manufacturers, and public interest organizations dedicated to promoting the growth and development of renewable energy in New Jersey and across the PJM grid.

On behalf of both our organizations, thank you for the opportunity to provide testimony on S2978. This committee, and New Jersey's policymakers more broadly, have made incredible progress on clean energy. The goals set forth in S2978 will ensure New Jersey remains at the forefront with nation-leading goals for clean power generation, carbon reduction, and reliable energy.

S2978 creates a clean energy certificate program that maps out the path to 100% clean energy by 2035, consistent with the goals of Governor Phil Murphy and his administration. Under the bill, the program would begin a year after the bill's enactment and would require electricity suppliers to purchase clean electricity attribute certificates (CEACs) equivalent to 80% of retail sales by 2027, 85% by 2030, and 100% by 2035. The bill gives the New Jersey Board of Public Utilities (BPU) flexibility in program implementation and authorizes the BPU to accelerate the program if it determines the benefits of the program outweigh the costs for New Jersey ratepayers.

We continue to gather feedback from our member companies on the details of S2978, though today we do want to highlight a few aspects of the bill.

Renewable Energy Credit Market Impacts

The legislation contemplates significant flexibility to retire New Jersey's various clean energy certificates in lieu of a Clean Energy Attribute Certificate (CEAC) while also significantly increasing the overall compliance targets. We are still analyzing and gathering feedback on market dynamics resulting from the proposed transferability of credits. However, generally, MAREC and ACP believe this is the right approach to avoid negative impacts to existing clean energy certificate markets which are presently incentivizing project development in New Jersey.

Inflation Reduction Act Labor Requirements

ACP and MAREC Action support S2978's approach to labor requirements, aligning prevailing wage and apprenticeship standards with the federal Inflation Reduction Act (IRA). The IRA has put America on a path to reducing economy-wide emissions 40 percent below 2005 levels by 2030 while creating 550,000 new clean energy jobs. The IRA is a critical part of creating America's clean energy future and keeps the

41x

U.S. within reach of President Biden's climate goals. The once-in-a-generation opportunity to build out America's clean energy resources enabled by the IRA is also an investment in U.S. workers. To access incentives like tax credits, project developers are required to pay prevailing wage, utilize apprenticeship programs, and more. Alignment between state and federal policies makes compliance more straightforward for companies, which by extension enhances New Jersey's ability to incentivize and sustain well-paying clean energy jobs.

In-State Project Requirements

S2978 places a strong emphasis on in-state development, requiring that 65% the electricity sourced to meet the state's demand come from New Jersey grid-connected clean facilities. ACP and MAREC Action support this provision as the program envisioned will create increased demand for clean energy projects in-state while also allowing healthy contribution from clean energy resources on the broader PJM grid. That being said, we believe the authority granted to the BPU to identify additional out of state resources if the in-state requirement cannot be met is critical to the success of this legislation. The current requirements of the Competitive Solar Incentive Program, including agricultural land-use restrictions, and the delayed implementation status of an energy storage incentive program may make the in-state goal difficult to attain without flexibility.

Supporting a Diverse Clean Energy Mix

The broad definition of "clean electricity production facility" appropriately recognizes the contribution of existing nuclear generation and future zero-carbon resources to a 100% clean energy target. Because the legislation envisions an uncapped contribution from future zero-emissions energy sources and a significant and immediate increase of the clean energy market in New Jersey, it is critical that S2978 be amended to codify Governor Phil Murphy's 11 gigawatt (GW) offshore wind goal and existing targets for energy storage and utility-scale solar.

New Jersey has already taken significant action to invest in solar, to invest in offshore wind supply chain leadership through the New Jersey Wind Port, and by working with industry leaders on other ways to keep costs low now and into the future for ratepayers. Codifying the 11 gigawatt goal will protect that progress and send a strong signal that New Jersey welcomes long-term supply chain investments to support offshore wind manufacturing and jobs.

From our perspective, New Jersey is uniquely positioned to take advantage of the booming east coast offshore wind sector, storage, and solar that the New Jersey Clean Energy Act of 2023 is intended to promote. Clean power policy means more jobs and investment in-state. The New Jersey Energy Master Plan envisions historic solar development. Combined with Governor Murphy's ambitious offshore goals, New Jersey is poised to lead our region through the energy transition. On behalf of our members, the American Clean Power Association and MAREC Action appreciate your careful consideration of this legislation and we stand ready to partner with this committee to improve this legislation to ensure New Jersey remains a clean power leader.

Moira Cyphers
Eastern Region State Affairs Director
American Clean Power Association
(301) 318-4220
MCyphers@cleanpower.org

Evan Vaughan
Executive Director
MAREC Action
(202) 431-4640
evaughan@marec.us

42x

Mainspring Energy
3601 Haven Avenue
Menlo Park, CA 94025
mainspringenergy.com



To: Chairman Smith and Members of the Senate Environment and Energy Committee
Regarding: S2978, New Jersey Clean Energy Act of 2023
From: Mainspring Energy

November 20, 2023

Chairman Smith and Members of the Senate Environment and Energy Committee,

Driven by its vision of the affordable, reliable, net-zero carbon grid of the future, Mainspring Energy, Inc. ("Mainspring") has developed and commercialized an innovative power generation technology - the linear generator. The linear generator is a dispatchable and rampable, non-combustion, fuel-flexible, zero or low emission, technology. It can operate on any type of gaseous fuel today, including clean fuels like 100% green hydrogen. Linear generators can satisfy the elusive need for dispatchable emission-free resources (DEFERs) to maintain an affordable, reliable grid for New Jersey as it pursues decarbonization.

Modular and scalable, Mainspring's linear generators can be deployed near load, either behind the meter or at utility scale. In fact, Mainspring recently achieved commercial operations in New Jersey for the first time at three customer sites in Elizabeth, Linden and Logan Township.

Moreover, linear generators have the ability to immediately generate electricity from a range of clean fuels – including both 100% hydrogen and ammonia or biogases. Mainspring's inverter-based technology offers a full range of valuable grid benefits including fast, and unlimited, starts/stops, a wide dispatch range from minimum to maximum load, quick ramping, and on-site fuel storage which allows linear generators to firm renewables for short or extended periods of time, thereby facilitating the continued rapid adoption of a reliable renewable energy grid.¹

¹ For additional information on technical specifications and performance benefits, visit <https://www.mainspringenergy.com/technology/>

43x

S2978 will be a catalyst to deploy more DEFRs in New Jersey, including linear generators and other innovative technologies. By establishing a 100% by 2035 clean electricity standard the bill sets a strong policy directive that signals to companies like Mainspring to invest in New Jersey. Such signals are vital for customers, companies and investors when making decisions about where to deploy capital today and beyond.

Mainspring thanks the committee for its consideration of this important issue, and urges support for S2978. We are excited about our first investments in New Jersey and look forward to more. Please do not hesitate to reach out with any questions about Mainspring and our innovative linear generator.

Sincerely,

/s/ Kevin Hennessy

Kevin Hennessy,
Senior Director, Policy
Kevin.Hennessy@mainspringenergy.com

44x



NEW JERSEY STATE BUILDING & CONSTRUCTION TRADES COUNCIL

- OVER 100 YEARS STRONG -

WILLIAM T. MULLEN
President

DAVID CRITCHLEY
Secretary-Treasurer

VICE PRESIDENTS

Joseph Egan
Electrical Workers

Joseph Demark, Jr.
Sheet Metal Workers

Marc Gallo
Plasterers &
Cement Masons

Robert Critchley
Roofers

Greg LaVeve
Operating Engineers

Leonard Legette
Elevator Constructors

Michael Maloney
Pipefitters

William Sproule
Carpenters

John Dwyer
Insulators & Allied Workers

John Capo
Bricklayers & Allied Crafts

Richard Sweeney
Iron Workers

Alphonse Rispoli
Teamsters

Michael Hellstrom
Laborers

Michael Laughlin
Painters

David Addison
Boilermakers

77 Brant Avenue
Clark, NJ 07066
ph: (732) 499-0100
Fax: (732) 499-0150
www.njbctc.org

To: Chairman Smith, and Members of the Senate Environment and Energy Committee

From: Bill Mullen, President - New Jersey Building and Construction Trades Council

Date: Monday, November 20, 2023

Re: Senate Bill 2978, Revises State renewable energy portfolio standards.

On behalf of the New Jersey Building and Construction Trades Council and its 15 union labor organizations, we **OPPOSE** Senate Bill 2978, a measure to revise state renewable energy portfolio standards. We applaud the sponsors for taking on the long-overdue effort to begin addressing the cumulative effects of environmental impacts on communities where our members work and live. However, we cannot support the pending legislation in its current form and would like to share some of our concerns.

The definition of clean energy does not leave room for potential new and repurposed technologies such as hydrogen and renewable natural gas for the cooling/heating of industrial, commercial, and residential buildings. The exclusion of explicit references to these developing technologies that would fit into a clean energy standard is a significant flaw and threatens the viability of and risks abandoning existing infrastructure currently occupied by current sources. With billions of dollars at stake under various federal infrastructure funding opportunities, we need to be sure that we are not leaving federal funding on the table by excluding, instead of promoting, other emerging alternative forms of energy.

The in-state generation percentage under the bill is too low. Without having the clean energy goal reflect an equally ambitious goal for the in-state generation of these sources, we risk subsidizing out-of-state energy generation. No out-of-state solar generation should be eligible for funding under this measure.

Moreover, we share deep concerns surrounding the broad authority of the New Jersey Department of Environmental Protection (DEP) and the New Jersey Board of Public

(Over)

45x

Utilities (BPU) under Senate Bill 2978. The term "de minimis" is not defined in the bill and would leave it up to the DEP to determine such levels for net greenhouse gas emissions and co-pollutants, which the agency is not equipped to handle.

An additional concern with this measure is that it would authorize the BPU to implement the program but also allow the agency to make any changes as necessary, such as to accelerate schedules if it determines the "benefits outweigh the cost to NJ residents," and the BPU can also "assign a CEAC a different energy value" all based on GHG value. We live, work, and play under a very complex energy market structure sensitive to forced changes outlined in this measure. Long-term economic stability and viability are essential to continue to grow New Jersey's union construction workforce in the energy sector.

The New Jersey State Building and Construction Trades Council coordinates activity and provides resources to 15 affiliated trade unions in the construction industry. It represents 13 Local Building Trades Councils, over 100 local unions, and over 150,000 rank-and-file members.



WASTE TO ENERGY
ASSOCIATION

November 15, 2023

Chairman Smith and members of the Senate Environment and Energy Committee,

The Waste-to-Energy Association (WTEA) is a national trade organization representing waste-to-energy companies and communities that rely upon these facilities. Our goal is to educate policy makers on the current scientific data and advocate for waste-to-energy as a key component of sustainable waste management sector.

Waste-to-energy facilities divert post-recycled, non-hazardous waste from methane-producing landfills to mitigate greenhouse gases from the atmosphere. Our Waste-to-energy facilities are designed to convert the waste into electricity for homes and businesses and/or steam for export to industries. Waste-to-energy facilities are highly regulated by state and federal governments and require highly trained staff and the latest state-of-the-art emissions control equipment which protects our environment.

In New Jersey, waste-to-energy facilities employ over 200 people and process over 23% of the state's waste after recycling. The renewable energy produced from these facilities is enough to power over 100,000 homes. When renewable energy component is combined with the methane emissions avoidance by not landfilling this waste and the metal recycling, waste-to-energy becomes a carbon-neutral technology. That is why these facilities have been included in the state's renewable portfolio standard for over 20 years.

While we strongly support the Chair's efforts to update the state's Renewable Portfolio Standard, we are currently in opposition to the provisions regarding the New Jersey Class II renewable energy credits (RECs).

As written, the term "substantive permit violation" indicates that any permit violation could remove a facility from receiving their Class II credits. While the facilities we represent are in compliance over 99% of the time, the reality is that every permitted Class I or Class II facility in the state of New Jersey will at times have a violation with DEP or other permits. These facilities are highly regulated. For instance, WTE facilities have hundreds of thousands of overlapping compliance periods every year. One violation would result in being eliminated from the program for an entire year. In essence, this would be saying that we should have a "zero-tolerance" enforcement mechanism in place for all departments that issue permits.

Furthermore, we believe that disqualifying a facility for an entire energy year is excessively punitive. Doing so would upset the REC marketplace, as RECs are generally sold in advance of the energy year. This would have an unintended consequence of driving up the price of RECs and increasing the cost of the program for rate payers while also having the state's energy providers potentially miss their RPS requirements.



5600 Connecticut Ave., NW
Washington, DC 20015



202-244-2114



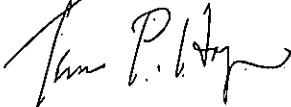
www.wte.org

417x

Last of all, if the goal of the section is to provide local communities with increased legal protection against the environmental impact that may be generated by renewable facilities that are financially supported by Class I, II, SREC or ZEC RECs, this provision should apply to all facilities, especially those in environmental justice (EJ) areas. Doing this would create a blanket of protection for EJ communities from all entities receiving RECs, not just those in Class II.

We thank you for your consideration of these language changes and for your continued advocacy and support for a cleaner environment.

Sincerely,



Thomas Hogan
President



5600 Connecticut Ave., NW
Washington, DC 20015



202-244-2114



www.wte.org

USX



Lloyd Naideck
Director, Government Relations
Tel: 862.216.5844
L.Naideck@covanta.com

Chairman Smith and members of the Senate Environment and Energy Committee,

Thank you for the opportunity to offer comments on S2978. We write today in support of the sponsor's intention but seeking amendments to language in the bill.

Covanta is a leader in sustainable materials management providing environmental solutions to businesses and local communities across New Jersey and North America. Through our network of facilities and state-of-the-art services, Covanta is helping solve today's most complex environmental challenges.

Our waste-to-energy (WTE) facilities specifically play a major role in mitigating methane emissions. Methane is a powerful, short-lived climate pollutant, whose concentration has more than doubled since the pre-industrial era. Methane is also 80 times more potent than CO₂ and its climate impact is much larger than previously reported. The Global Methane Assessment, released in May 2021 by the United Nations Environment Programme (UNEP), concluded that "mitigation of methane is very likely the strategy with the greatest potential to decrease warming over the next 20 years." Mitigating methane emissions is one of the strongest levers we have for avoiding the most severe impacts of climate change. In 2021, the Biden Administration and the European Union announced the Global Methane Pledge for a collective effort to reduce global methane emissions at least 30% from 2020 levels by 2030, which could eliminate over 0.2° C warming by 2050.

WTE facilities, and other forms of organics diversion from landfills, prevent all generation of landfill methane, the third largest anthropogenic source of methane. In fact, the largest GHG emissions source in the waste sector is landfill methane. Our strongest tool for reducing methane emissions is diverting organics from landfills through prevention, recycling, anaerobic digestion, composting, and WTE.

Due to its impact on methane mitigation and energy generation, WTE is considered a renewable energy source by the federal government and many states (PA, MD, NY, CT) around the country. It is also included as such in the Biden Administration's Inflation Reduction Act. That is why it has been included in the state's renewable portfolio standard (RPS) since the standard's inception. It continues to be a part of the long-term strategy to have a fully renewable power generation sector.

As it regards S2978, we believe the provision on Class II renewable energy credits (RECs) needs to be amended in three key ways.

First, if the goal of the section is to create increased legal protection against the environmental impact that may be generated by renewable facilities, specifically in environmental justice (EJ) communities, this provision should apply to all entities receiving RECs (Class I, II, SREC or ZEC RECs).

Second, the term "substantive permit violation" appears to indicate that any permit violation could remove a WTE facility from receiving their Class II credits. This language should be more clearly defined to avoid resulting in punitive action against Class II facilities. While these facilities are in compliance over 99% of the time, the reality is that every permitted Class I or Class

COVANTA

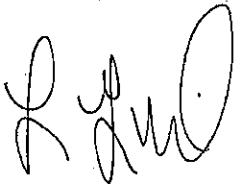
Lloyd Naideck
Director, Government Relations
Tel: 862.216.5844
LNaideck@covanta.com

II facility in the state of New Jersey will at times have a violation with DEP or other permits. These facilities are highly regulated. For instance, the WTE facility in Essex County has over 600,000 overlapping air compliance periods every year. As drafted, one violation would result in being eliminated from the program for an entire year.

Finally, we believe that disqualifying a facility for an entire energy year is excessively punitive. Instead, if a facility were to be disqualified due to a permit violation, it should be for the period of the violation, not a full year. In making it a full year disqualification, the Legislature would upset the REC marketplace, as RECs are generally sold in advance of the energy year. This would have an unintended consequence of driving up the price of RECs and increasing the cost of the program for rate payers while also having the state's energy providers potentially miss their RPS requirements.

Thank you again for your leadership on this critical issue.

Sincerely,



Lloyd Naideck
Director, Government Relations



90 Arboretum Drive, Suite 300, Portsmouth, NH 03801
www.win-waste.com

November 20, 2023

Chairman Smith and members of the Senate Environment and Energy Committee,

WIN Waste Innovations is submitting this testimony in opposition to the provisions regarding the New Jersey Class II renewable energy credits (RECs) in Senate Bill 2978 (the Bill).

By way of background Win Waste Innovations is a private waste services company headquartered in Portsmouth, New Hampshire with collections, hauling, transfer, and disposal facilities throughout twelve states. We own and operate a waste-to-energy (WTE) facility in Gloucester County, New Jersey and a transfer station in Paterson, New Jersey. Our Gloucester County facility has been an integral part of the County's solid waste management system for almost 35 years. It processes 170,000 tons per year of municipal solid waste from the County, produces 14 MWs of clean and renewable electricity enough to supply the equivalent of the electrical needs of 7,800 New Jersey homes and recycles almost 2,000 tons of metals each year.

In addition, the Gloucester facility reduces greenhouse gas emissions by 1.7 tons net carbon equivalent for every ton of waste processed at the facility by avoiding disposal of the waste at landfills. Because it is located in the County, the facility also avoids waste exports from the County which reduces semi-tractor trailer traffic and air pollution.

As drafted in the Bill, the term "substantive permit violation" means that any permit violation could remove a WTE facility from receiving its Class II RECs for a year. While our facility complies over 99% of the time with its permits, the reality is that every permitted Class I or Class II facility in New Jersey will at times have a violation of its DEP or other permits.

Our Gloucester facility is highly regulated with hundreds of thousands of compliance points each year. One violation even for a short duration and with minimal or no environmental impact would prevent the Gloucester facility from selling any RECs for an entire year. In essence, there would be a "zero-tolerance" enforcement mechanism in place for permits. Because RECs represent a significant portion of Wheelabrator Gloucester's revenues losing this revenue potentially for multiple years could impact the long-term viability of the facility.

Disqualifying a facility for an entire energy year is excessively punitive. Doing so would upset the REC marketplace, as RECs are sold in advance of the energy year. If a facility was disqualified from selling RECs in a year that they had already been sold those transactions would be invalidated requiring them to be somehow unwound. It would have the unintended consequence of driving up the price of RECs and increasing the cost of the program for rate payers while also having the state's energy providers potentially miss their RPS requirements.

Last of all, this provision discriminates unfairly against WTE facilities. Energy generating facilities included in Class I such as biomass, anaerobic digestion and landfill gas facilities have similar permits and emissions as WTE facilities but would not be subject to the same ramifications for a permit violation as a

51x

WTE facility. WTE facilities should not be singled out for this harsh penalty given the important role they play in disposing of over 23% of the State's solid waste.

For the foregoing reasons we strongly urge you to reconsider the proposed changes to the Class II REC eligibility requirements in Senate Bill 2978.

Very truly yours,



Michael O'Friel
Senior Vice President and General Counsel
WIN Waste Innovations



Clinicians for Climate Action NJ

November 17, 2023

NJ Senate Energy & Environment Committee
Office of Legislative Services
Office of Public Information
Room B50, State House Annex
P.O. Box 068
Trenton, NJ 08625-0068

Dear Members of the Energy and Environment Committee,

We are extremely grateful for the years of work that your committee has undertaken to address the challenge of climate change and its impact on the health and well-being of New Jersey's children. You have brought New Jersey into the forefront of the work being done by states on this issue. This is an achievement we deeply respect and one we enjoy highlighting to our colleagues across the nation. Looking forward, the Clinicians for Climate Action New Jersey would like to submit the following comments in support of the emerging 100% Clean Energy Standard.

As this past summer so harshly brought home to New Jersey and the northeastern United States, we have entered a new era in human history. The 'Anthropocene' is ushering in a world that is radically changing, as predicted by more than 40 years of scientific endeavor. Earlier this month James Hansen, the former NASA lead scientist who first raised the alarm in the 1980's, released his team's latest findings concluding that "The planet is now out of (energy) balance by an incredible amount." In the ensuing scientific debate around the details of the team's work, there has been one consistent and overarching message from the scientific community: universal agreement that we are nowhere near lowering the warming of the atmosphere and the oceans at a rate commensurate to the threat.

Just under five years ago, the World Health Organization declared climate change to be "*the greatest threat to global health in the 21st century.*" Virtually every professional medical and health organization in the United States has since issued similar statements. As you know, public health policy focuses on the social determinants of health. Climate change is the single most powerful and overarching detrimental driver undermining all social determinants of health. The lives of the young citizens of New Jersey, and every other young person on the planet, will soon be overtaken by climate change in myriad ways if we do not radically change the path we are on. As such, a Clean Energy Standard of 100% clean electricity by 2035 needs to be enshrined in law now, but it must have safeguards for public health and environmental justice communities.

We must adopt a nation leading definition of clean energy - a definition that acknowledges the historical cumulative burdens of carbon pollution in environmental justice communities. We must

53x

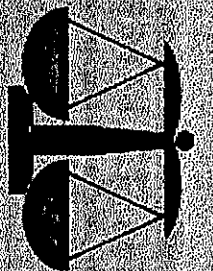
stop the practice of using ratepayer dollars to sicken and pollute these communities. As health professionals, we are particularly focused on that idea as it relates to low-income, overburdened communities of color. Locating fossil fuel burning power plants within these communities is unacceptable. Similarly, we are pleased to see that “resource recovery facilities,” (i.e., trash incinerators) are not included in the definition of “clean electricity production facilities.” Generating energy by burning trash is antithetical to the concept of “clean energy” - given the emission of toxic air pollutants known to exacerbate asthma and other respiratory diseases. That fact is, of course, coupled to the recognition that any form of combustion releases carbon pollution – the driver of the unprecedented changes we see in the atmosphere and our oceans.

Unless we shift our thinking as a society and act commensurate to the diagnosis, we know what lies in store for New Jersey’s children. We must act far more definitely and robustly if we truly intend to protect the health and well-being of future generations. Adopting a 100% Clean Electricity Standard by 2035 is a powerful step forward.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Quinlan & Felicia Taylor". The signature is written in a cursive style with a long horizontal line extending from the first name.

Dan Quinlan & Felicia Taylor
Co-leaders
The Clinicians for Climate Action NJ



55 x

Figure 1: Relationship Between Cumulative Impact and Percent Minority

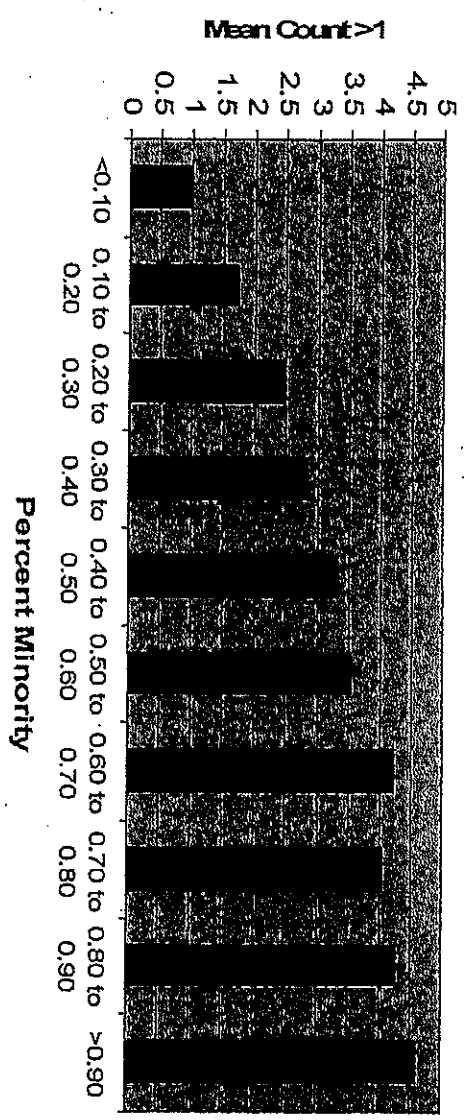
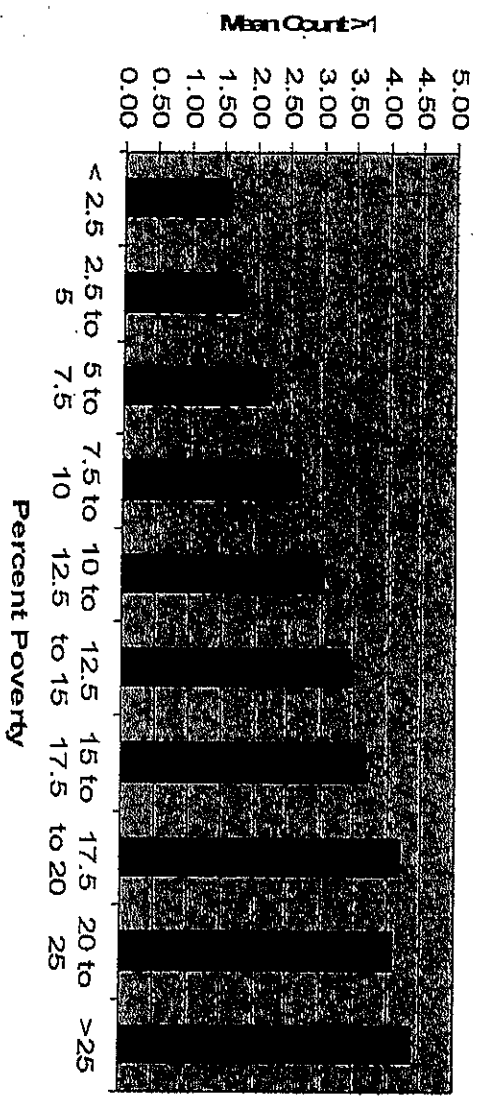


Figure 2: Relationship Between Cumulative Impact and Poverty



- Grouped all block groups based on percent minority and poverty
- Calculated average cumulative impact score for combined groups
- Cumulative impact scores increase steadily with increasing percent minority and poverty



Mid-Atlantic Solar & Storage Industries Association
Rutgers Eco-Complex, Suite 208-8
1200 Florence-Columbus Road, Bordentown, NJ 08505 | coordinator@mssia.org

S2978 – RPS – Calculations for Solar Industry

1. Load growth - EVs grow load by 16.8% by 2035¹ (ave. 1.4%/year)
 - Assume building electrification minus energy conservation 0.6%/year
 - So we assume net growth is 0.8% per yearThen 2035 total load = 80.0 million MWH/year
 2. Nuclear generation = 27.8 million MWH/year (34.8%)
 3. Wind at 7,500 MW = 27.9 million MWH/year (36.1%)
 4. In-State Class 1 at 400 MW = 2.8 million MWH/year (3.5%)
 5. Solar per EMP LCS = 19.8 million MWH/year (24.7%)
- So in 2035 nuclear + wind + NJ Class 1 + solar (per EMP) = 97.9% of total load.
65% in-state provides for ZERO additional solar between now and 2035.

¹ Based on year by year new car sales assumptions: EVs at 25% of new car sales by 2027, 50% by 2030, and 100% by 2035, on total sales of 500,000/year

² Based on installed solar + 85% of pipeline as of 9/30/23 x 1,150 MWH/MW/yr.

57+



Mid-Atlantic Solar & Storage Industries Association

Rutgers Eco-Complex, Suite 208-8

1200 Florence-Columbus Road, Bordentown, NJ 08505 | coordinator@mssia.org

Cost Only? Why would Value not be considered?

Solar is the only clean energy source that has been creating real jobs, economic growth, private investment, federal funding, and clean energy at scale for the last 20 years,

the only clean energy source that returns cash directly to ratepayers – homeowners, schools, towns, local businesses, farms, non-profits,

the only clean energy source that strengthens the distribution system, and can provide resilient power for communities' critical needs, and... has new programs that will help hundreds of thousands of low-income households, and...

also lowers electric wholesale costs (LMP), reduces criteria pollutants locally and regionally, and more.

X 58



Mid-Atlantic Solar & Storage Industries Association
Rutgers Eco-Complex, Suite 208-8
1200 Florence-Columbus Road, Bordentown, NJ 08505 | coordinator@mssia.org

Solar in New Jersey has been returning incentive cash back to entities and households in NJ.

Where has the cash back been going?

Who could benefit by 2035?*

*Per EMP Least Cost Scenario

Type of Beneficiary	Sep. 2023	Projected to 2035
Schools	985	3,691
Universities	78	292
Local & State Government	466	1,746
Non-Profits, Charities, Houses of Worship	832	3,118
Farms	210	787
Business Locations	6,653	24,930
Residential	178,152	667,571
Special Needs Housing	60	225

% of Public Schools

34.30%

>100%

(100% by 2031 or 2032)

X 55



Mid-Atlantic Solar & Storage Industries Association

Rutgers Eco-Complex, Suite 208-8

1200 Florence-Columbus Road, Bordentown, NJ 08505 | coordinator@mssia.org

Savings to School Participants in ADI Program vs. Incentives paid

- No. of Schools in sample **40** (in six districts)
- Total ADI incentives per school over 15 years (average) **\$ 665,000**
- Total savings per school over 25 years (average) **\$1,006,000**
- Total savings per school over 30 years (average) **\$1,274,000**
- Total cash back per \$100 of ADI Incentive – 25 year **\$151**
- Total cash back per \$100 of ADI Incentive – 30 year **\$192**
- IRR – 25 year **10.6%**
- IRR – 30 year **12.2%**

X 99

New benefits from new programs and technologies:

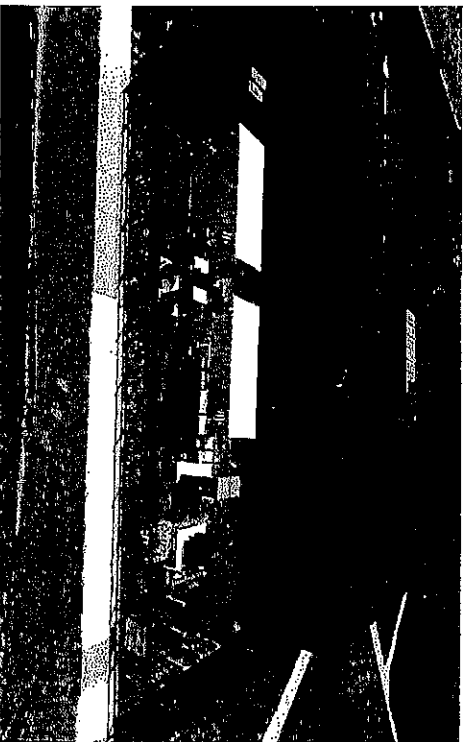
1. Community Solar

Up to 475,000 low-income households by 2035
(over 50% of total low-income households)



2. Microgrids

Clean, resilient power to serve critical
community needs – important in a warming
planet



7/3



Mid-Atlantic Solar & Storage Industries Association

Rutgers Eco-Complex, Suite 208-8

1200 Florence-Columbus Road, Bordentown, NJ 08505 | coordinator@mssia.org

New benefits from new programs and technologies:

3. Direct pay of Federal ITC

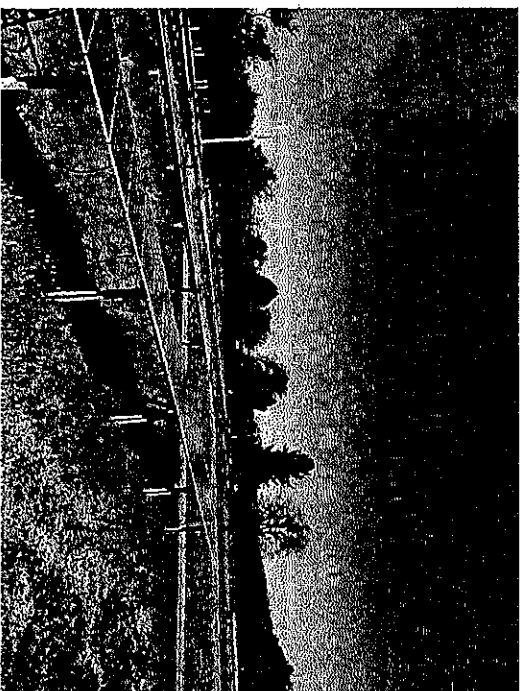
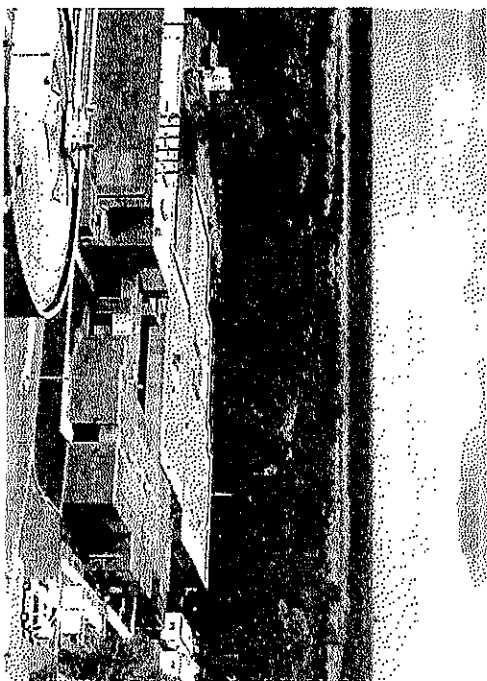
Lets local government, school, and non-profit projects keep more of the revenue.

4. Remote Net Metering

Another way to encourage more solar on public properties, sharing the benefits widely.

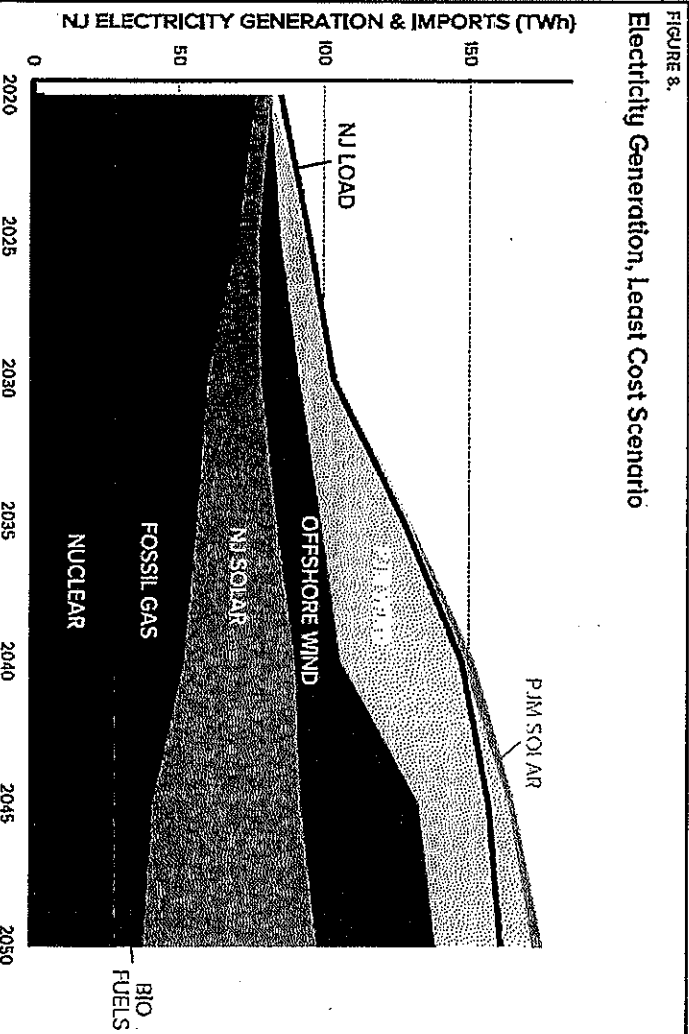
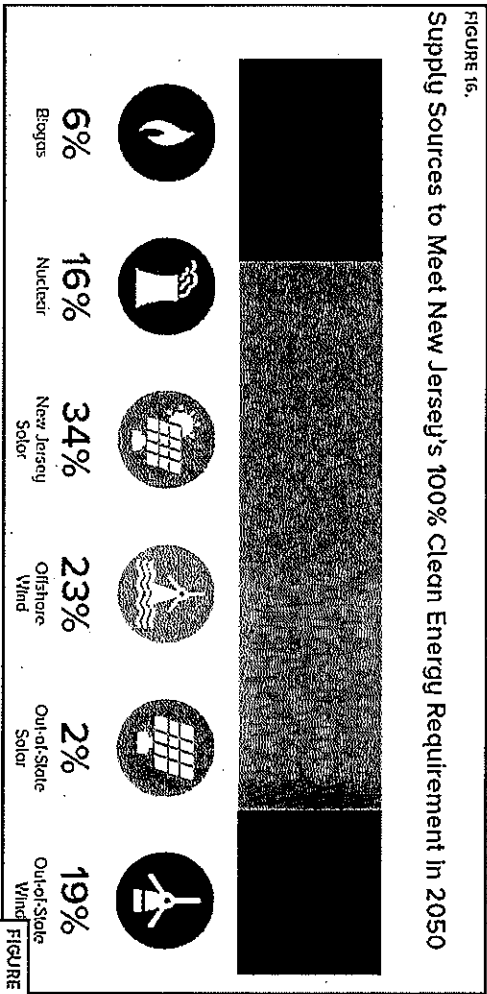
5. Dual Use / Agrivoltaics

Help to keep New Jersey farmers farming.



269

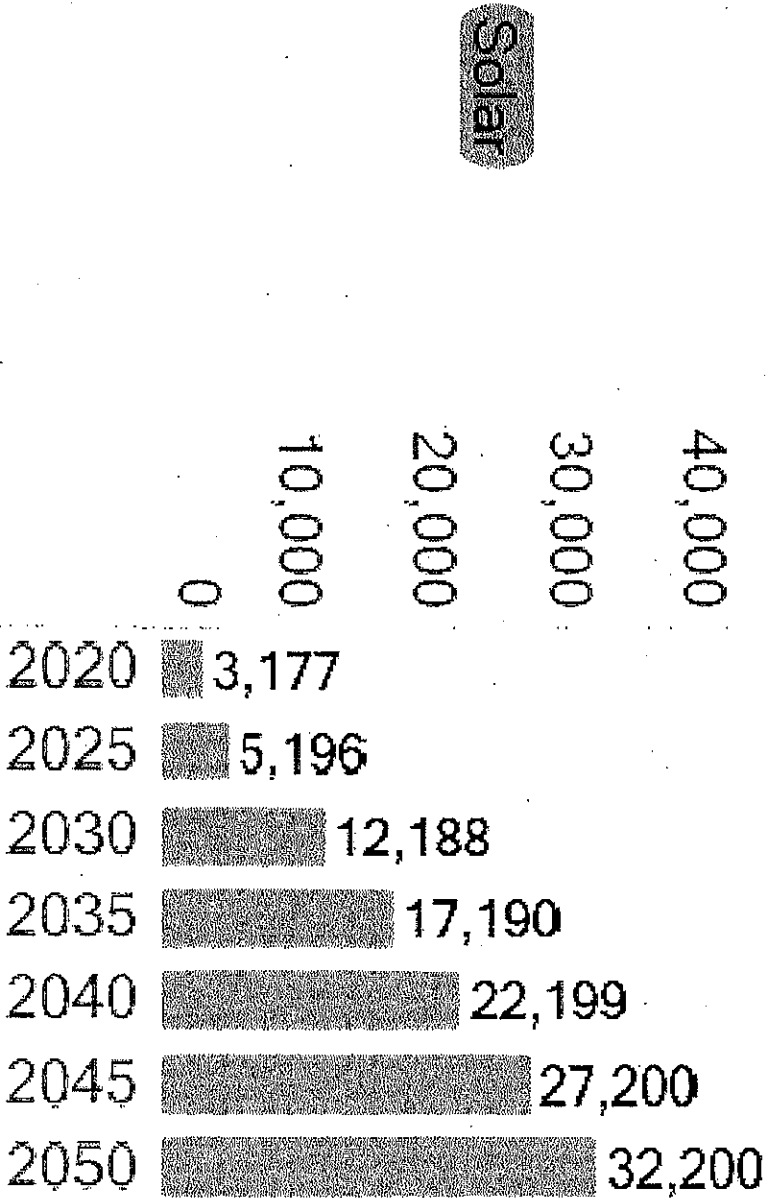
New Jersey's Energy Master Plan Least Cost Scenario



63x

New Jersey's Energy Master Plan Least Cost Scenario

Solar Growth By Year

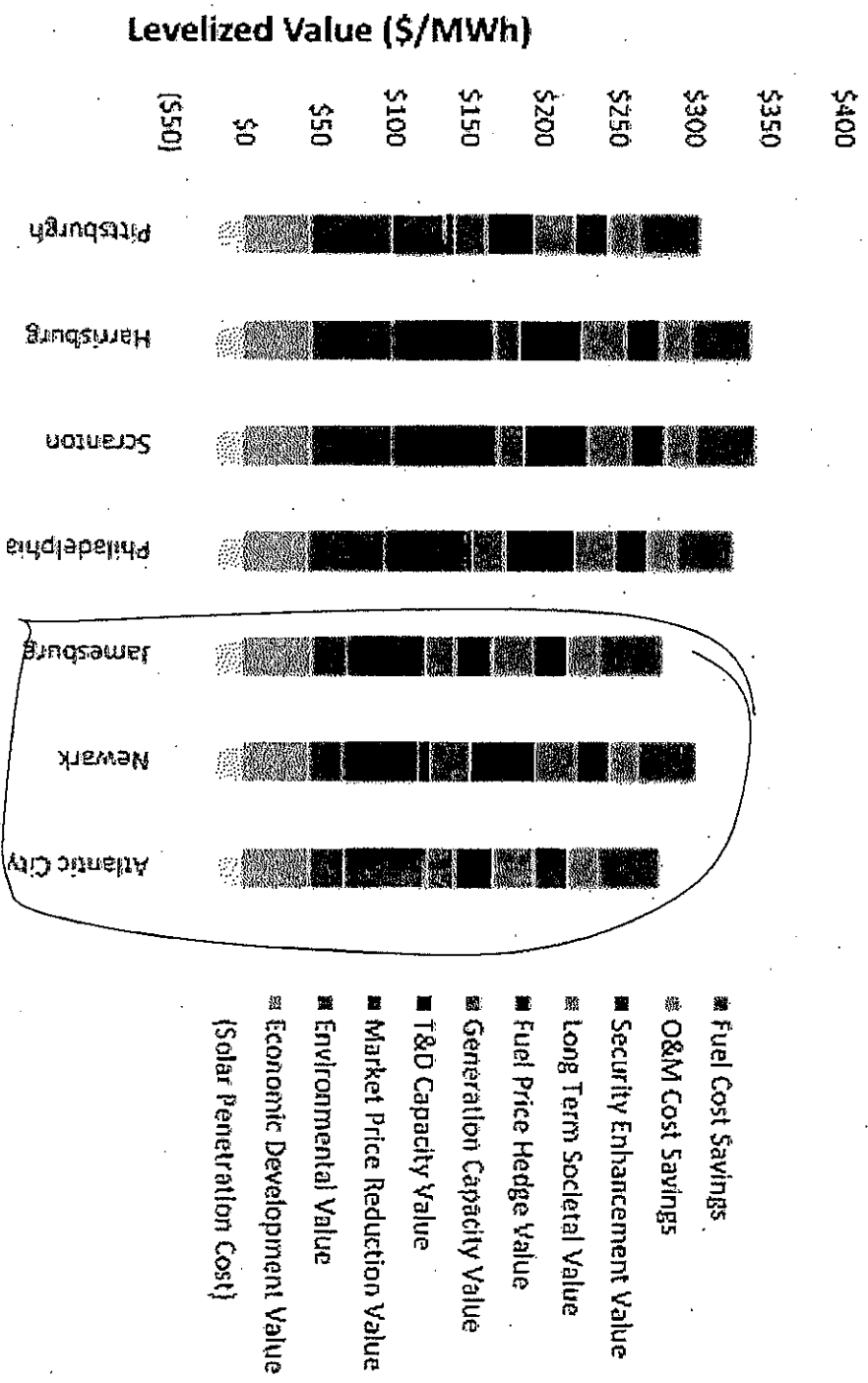


64x

EMP 2.1.6 Develop mechanisms to compensate distributed energy resources for their full value stack (p. 101)

The Value of Distributed Solar Electric Generation to New Jersey and Pennsylvania – Clean Power Research, 2012

Figure ES-1. Levelized value (\$/MWh), by location (South-30).



The average value of solar as bundled energy + attributes was \$264/MWH in New Jersey (net of costs for grid upgrades).

65x

Impacts of High Variable Renewable Energy Futures on Wholesale Electricity Prices and on Electric-Sector Decision Making – Lawrence Berkeley National Laboratory

This federal study measured the effect of 40-50% solar & wind by 2030 for four of the nations largest ISO's. Unfortunately, PJM was not studied, but NYISO was, covering a region adjacent to New Jersey that has similar characteristics. Lending support to a part of the CPR study for New Jersey, it found that a solar-heavy scenario for 40% to 50% solar & wind by 2030 would lower wholesale prices in NYISO by 39%.

Wholesale Price Effects of 40-50% Wind & Solar

(Wind: 30% wind & 10+% solar | Balanced: 20% wind & 20% solar | Solar: 30% solar & 10+% wind)

Impacts in 2030 relative to baseline with 2016 wind & solar shares	Southwest Power Pool 2016: 18% wind & 0% solar			NYISO (New York) 2016: 8% wind & 1% solar			CAISO (California) 2016: 7% wind & 14% solar			ERCOT (Texas) 2016: 10% wind & 1% solar		
	Wind	Balanced	Solar	Wind	Balanced	Solar	Wind	Balanced	Solar	Wind	Balanced	Solar
Lower Average Prices (\$/MWh)	-6%	-12%	-18%	-6%	-12%	-18%	-6%	-12%	-18%	-6%	-12%	-18%
More Hours <\$5/MWh In baseline: 0% of all hours	6%	8%	13%	2%	7%	11%	6%	7%	11%	6%	11%	19%
Changes in Diurnal Price Profile level baseline shows 2016 wind & solar shares												
More Price Variability	1.8x	2.1x	2.5x	2.1x	2.3x	2.5x	3.0x	2.9x	3.4x	1x	4.7x	6.6x
Higher AS Prices Regulation Down	5x	6x	9x	2x	2x	3x	3x	3x	3x	2x	3x	4x
Change in Timing of Top Net-Load Hours	Shift from 4pm to 7pm			Shift from 3pm to 5-7pm			No further shift 7pm			Shift from 3pm to 6-8pm		

66x



Mid-Atlantic Solar & Storage Industries Association

Rutgers Eco-Complex, Suite 208-8

1200 Florence-Columbus Road, Bordentown, NJ 08505 | coordinator@mssia.org

The Clean Energy Certificate idea has its roots in fossil fuel advocacy:



INDEPENDENT ENERGY PRODUCERS OF NEW JERSEY

Investigation of Resource Adequacy Alternatives

Comments on behalf of the Independent Energy Producers of New Jersey

Docket No. EO20030203

H. Clean Energy Certificates Under a Clean Energy Standard

The Clean Energy Standard (CES) is another policy option for the Board to consider for accelerating the penetration of clean generation in a region, potentially beyond an existing RPS. The CES also utilizes the creation of credits and establishes a market price for those credits to create an incentive for generating carbon-free energy. In contrast to RPS requirements, CES is generally not tied to specific technology types, and could be fulfilled by any resource that could meet a carbon standard, including coal or natural gas with carbon capture. As with the RPS, the creation and trading of certificates establishes a market price to meet the standard. The CES would also be another form of state subsidy that would subject resources the MOPR, leaving the state to address the capacity shortfall issues that have been discussed for other alternatives and programs.

67X

Fossil Fuels with CCS

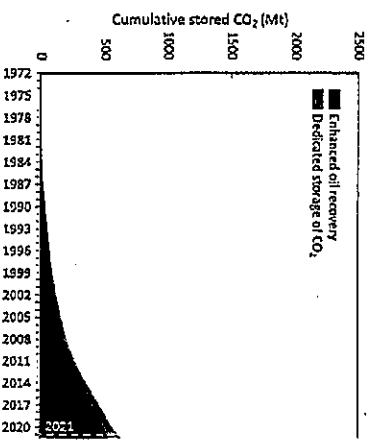
- Feasibility and economics questionable.
- Especially in EOR, much of the CO₂ may be leaking back out quickly.
- Even if all CO₂ could be captured and stored permanently, it solves less than half the problem. More than half is due to methane (with 20-year time horizon).

A ten-year review of CCS projects:

One Earth

Carbon capture and storage at the end of a lost decade

- Most projects have been cancelled
- All Natural gas power plant CCS projects have been cancelled – none in development
- 86% of captured carbon has been used in Enhanced Oilfield Recovery – enabling the pumping of more oil out of the ground.



X 89



EARTHJUSTICE

Date: November 21, 2023

To: New Jersey State Senate Environment and Energy Committee

From: Ironbound Community Corporation, New Jersey Environmental Justice Alliance, and Earthjustice

Re: Written Testimony on the New Jersey Clean Energy Act of 2023, A4658/S2978

Chairman Smith, Vice-Chair Greenstein, and Honorable Committee Members:

Thank you for the opportunity to submit written testimony on the New Jersey Clean Energy Act of 2023. This bill sets an ambitious target to transition our state's grid to 100% clean energy by 2035, using an annual matching approach. In keeping with New Jersey's commitment to environmental justice, the bill must ensure an equitable clean energy transition that prioritizes overburdened communities. To do so, the bill must define clean energy not just in terms of greenhouse gas emissions, but also co-pollutant emissions. Carbon reduction schemes in other states have failed to account for co-pollutants, which fails to take advantage of an opportunity to reduce air pollution in environmental justice communities, and in a worst case scenario, may even worsen air quality in those areas.¹

We appreciate the latest draft amendments to S2678 dated November 10, 2023. At the November 20 hearing, Chairman Smith stated that further amendments would be made to the bill before a vote on December 18. We suggest the specific clarifying amendments summarized here and described in greater detail below:

1. Refine Section 3's definition of "clean energy production facility" to clarify the application to co-pollutants **and** greenhouse gas emissions as well as at the point of generation **and** at any point in the fuel supply chain; to not allow "net" zero greenhouse gas emissions; and to define "de minimis" very close to zero, a few pounds of emissions per year.
2. Clarify section 11 to ensure its intent to disqualify non-compliant incinerators from receiving Class II Renewable Energy Credits. (See Attachment 1).

Clarifications to the Definition of Clean Energy

The bill's current definition of clean energy, as of November 10, 2023, states that a Clean Energy Production Facility can only produce a **de minimis** level of co-pollutants **or net** greenhouse gases, at the point of generation, **or** at any point in the supply chain for fuel used at the facility.

¹ Pol. Econ. Rsch. Inst., *Green for All: Integrating Air Quality and Environmental Justice into the Clean Energy Transition* (Mar. 2021), <https://peri.umass.edu/publication/item/1408-green-for-all-integrating-air-quality-and-environmental-justice-into-the-clean-energy-transition>.

69X

We support the incorporation of co-pollutants. This ensures that New Jersey will have an equitable, nation-leading definition of clean energy.

We ask for clarification on the meaning of “de minimis.” The bill would have to provide a much more specific definition for that term, very close to zero in terms of a few pounds of emissions in any given year. Thus, for example, at the very least the bill should say that any facility emissions that are high enough to require the facility to obtain an air permit (minor or major)² are per se *not* “de minimis” emissions. If the bill does not define “de minimis,” the term may be interpreted to point to NJSA 26:2C-9.2(c)(1), which refers to the EPA’s definition under the Clean Air Act that allows up to 100 tons of emissions per year per co-pollutant, numbers much too high to achieve the bill’s objective of establishing nation-leading protections for public health.

We object to the concept of “net” emissions, where a facility could produce significant pollution, often in an overburdened community, and still claim zero “net” emissions by using offsets in other locations and creative accounting methods. We’ve already seen “renewable” gas producers and incinerators make claims of “net zero” emissions. Those are false solutions: technological, policy, and/or market-based approaches that give the semblance of taking positive climate action while in actuality delaying this action or even further contributing to adverse climate conditions. Nobody can honestly call RNG and incinerators clean energy.

Finally, the definition uses the conjunction “or” in two places. We need to be 100% sure that the definition requires facilities to demonstrate zero GHG emissions **and** zero co-pollutant emissions. And we need to be 100% sure that clean energy production facility would emit zero emissions at the point of generation **and** at any point in the fuel supply chain. We request that you clarify this language to make this intent clear.

The Bill Must Require Incinerators to Abide by the Highest Environmental Standards to Receive Class II Renewable Energy Credits

Incinerators present a case study of the type of false solutions we are trying to avoid with this bill. The current Renewable Portfolio Standard (“RPS”) misguidedly allows incinerators access to clean energy credits despite being some of the most polluting energy sources in the state.³ Not only does the \$116 million in “clean energy” subsidies⁴ given to incinerators using New Jersey ratepayer dollars negatively impact the affordability of in-state electricity, but incinerators also have detrimental health impacts on surrounding communities⁵ who are most

² Under New Jersey’s Air Pollution Control Act (N.J.S.A. 26:2C) or the implementing regulations (N.J.A.C. 7:27).

³ Incinerators “can emit more air pollutants than coal plants per unit of energy—up to 18 times more lead, 14 times more mercury, 6 times more smog-forming nitrogen oxides, 5 times more carbon monoxide, 4 times more cadmium and hydrogen chloride, and 2.5 times more greenhouse gases.” Earthjustice et al., *New Jersey’s Dirty Secret: The Injustice of Incinerators and Trash Energy in New Jersey’s Frontline Communities* at 4 (2021), https://earthjustice.org/wp-content/uploads/nj-incinerator-report_earthjustice-2021-02.pdf (attached as Attachment 2).

⁴ See Earthjustice, *New Jersey’s Dirty Secret* (June 2023) (One pager with updated statistics on NJ’s RPS subsidies to incinerators) (attached as Attachment 3).

⁵ See Ana Isabel Baptista & Adrienne Perovich, *U.S. Municipal Solid Waste Incinerators: An Industry in Decline* at 37–38, Tishman Env’t and Design Ctr. (May 2019), <https://www.no-burn.org/wp->

often low-income communities and Communities of Color. Worse still, New Jersey incinerators are consistently violating their permits, having amassed over 1,700 permit violations since 2004.⁶ We appreciate the intent of the November 10, 2023 version of A4658/S2978 to disqualify noncompliant incinerators from receiving Class II RECs. Attachment 1 submitted here proposes the following edits to Section 11 that we believe will better achieve this goal:

1. The definition of “substantive permit violation” should be clarified to include violations that meet any of the following:
 - a. *Emissions of any air pollutant in violation of the permit emission rate, emission concentration, or capture rate lasting longer than 30 minutes;*
 - b. *Any violation of a permit condition that the facility has already violated two or more times over the course of the facility’s operation;*
 - c. *Any violation of any condition imposed pursuant to the Environmental Justice Law (NJSA 13:1D-157 to 161) or the Environmental Justice Regulations (NJAC 7:1C).*
2. Instead of requiring a “final agency action” for a finding of a substantive permit violation, we propose that the “Commissioner of Environmental Protection *inform the Board of a Notice of Violation or an Administrative Order related to a substantive permit violation committed by the facility with respect to any permit issued to the facility by the Department of Environmental Protection...*”
3. To provide structure and a time frame to the substantive violation assessment, we urge the legislature to add the following language: “*At least sixty days before the start of the energy year, the Board shall initiate one comprehensive proceeding to determine the eligibility, under the criteria set forth in this section, of each Class II renewable energy facility to receive a Class II REC or other similar financial incentive authorized by the Board of Public Utilities.*”
4. Section 11(c) should be amended to reflect language that requires DEP to provide BPU with information regarding all violations, Notice of Violations, or Administrator Orders issued to each Class II renewable energy facilities, highlighting the substantive violations, at least 90 days before the commencement of the Energy Year. DEP must also provide the facility’s self-reported emission violations in its annual and semiannual reports. In situations where the Class II facility is located out-of-state, the Department should be allowed to obtain the information from whatever regulatory agency, be it state or federal, that holds this data to comply with its obligations under this provision.
5. A provision should be added to specify that “*The requirements of this section are nondiscretionary obligations.*”

[content/uploads/2021/03/CR_GaiaReportFinal_05.21-1.pdf](#); Jean-François Viel et al., *Soft-tissue Sarcoma and Non-Hodgkin’s Lymphoma Clusters Around a Municipal Solid Waste Incinerator with High Dioxin Emission Levels*, 152 Am. J. Epidemiology 13–19 (2000); Silvia Candela et al., *Air Pollution from Incinerators and Reproductive Outcomes: A Multisite Study*, 24 Epidemiology 863–70 (2013); Silvia Candela et al., *Exposure to Emissions from Municipal Solid Waste Incinerators and Miscarriages: A Multisite Study of the MONITER Project*, 78 Env’t Int. 51–60 (2015); Yoshihiro Miyake et al., *Relationship Between Distance of Schools from the Nearest Municipal Waste Incineration Plant and Child Health in Japan*, 20 Eur. J. Epidemiology 1023–29 (2005).

⁶ Earthjustice et al., *supra* note 3 at 5, 6.

Lastly, as we face this critical juncture in planning for New Jersey's energy future, we urge the legislature not to repeat the same mistakes of the RPS Program in this bill. We therefore urge the legislature to retain the language specifically excluding resource recovery facilities from the definition of "clean electricity production facility."

True Clean Energy Resources, Meeting A Robust Clean Energy Definition, Will Improve Energy Affordability

This bill, if clean energy is defined properly, provides a great opportunity to incentivize construction of new clean energy generation serving our state. Clean energy generation will provide more affordable energy, due to its low operation & maintenance costs, and avoidance of any fuel costs.⁷ These are the least-cost resources to meet electricity demand - any long-term plan to lower energy costs starts with clean energy. Policies that reduce financing costs and investment risk for construction of true clean energy generation will drive down customers' monthly electricity bills.⁸

On the other hand, a lax clean energy definition could allow false solutions with high fuel costs to access ratepayer subsidies. Even worse, if constructed now, those power plants would burn fuel for decades - with future ratepayers forced to cover high fuel and O&M costs.

True Clean Energy Resources, Meeting A Robust Clean Energy Definition, Will Improve Grid Reliability

A transition to true clean energy resources would also benefit the reliability and resiliency of New Jersey's grid. New Jersey's grid currently depends heavily on infrastructure carrying fracked gas from other states to our gas-fired power plants. During Winter Storm Elliott, gas-fired units were plagued by fuel issues, freezing, and mechanical/electrical issues.⁹ FERC has repeatedly recommended that state legislatures "take action to establish reliability rules for natural gas infrastructure..."¹⁰ False solutions like RNG would also rely on this infrastructure. It would be unwise to increase dependence on gas infrastructure until reliability rules are in place.

While gas plants faltered during Winter Storm Elliott, solar and wind performed reliably. Throughout the storm, from December 22 to 26, the actual energy production from PJM's wind and solar resources closely matched the day-ahead forecast, demonstrating their reliability.¹¹

⁷ "Once built and when the resource is available, wind and solar are the least cost resources to operate to meet electricity demand because they have zero fuel costs." U.S. Energy Info. Admin., *Annual Energy Outlook 2023* (Mar. 16, 2023), <https://www.eia.gov/outlooks/aeo/narrative/index.php#ExecutiveSummary>.

⁸ Policies like this one, "aimed at reducing financing costs for new generation and transmission capacity—along with efforts that reduce investment risks—would have a relatively strong influence on retail rates." Patrick R. Brown et al., Nat'l Renewable Energy Lab'y, *Retail Rate Projections for Long-Term Electricity System Models* at 19 (2022), <https://www.nrel.gov/docs/fy22osti/78224.pdf>.

⁹ Fed. Energy Regul. Comm'n and N. Am. Elec. Reliability Corp., *Inquiry into Bulk-Power System Operations During December 2022 Winter Storm Elliott* at 91 (Oct. 2023), <https://www.ferc.gov/media/winter-storm-elliott-report-inquiry-bulk-power-system-operations-during-december-2022>. During three days of Winter Storm Elliott: December 22, 23, 24 of last year, fuel issues caused more than 50,000 generator outages, derates, and failures to start in the PJM region. *Id.* at 49.

¹⁰ *Id.* at 20. See also *id.* at 137 (Key Recommendation 4).

¹¹ *Id.* at 129 (Figure 109).

72x

FERC's report also provided several examples of how wind, solar, and storage filled the gap left by failure of gas plants.¹²

Section 9 of the bill requires the Board to create programs to use Zero-Emission Resources and Reduced-Emission Resources to satisfy New Jersey's electric reliability requirements. Those programs should be created through rulemaking, in the same way that the Clean Energy Attribute Credit program would be created through rulemaking in Section 4 of the bill. As detailed above, true clean energy resources that emit zero GHG emissions **and** zero co-pollutant emissions performed reliably during Winter Storm Elliott, and will improve grid reliability. The Board should address any reliability issues with true clean energy resources, and non-invasive measures like energy efficiency, demand response, distributed energy + storage, and grid enhancements. Our concerns about reduced-emission resources, which **do** have co-pollutant emissions, are detailed below.

A Strict Clean Energy Definition Will Prevent Ratepayer Subsidies for False Solutions

A robust definition of clean energy will avoid handing Clean Energy Attribute Credits to facilities employing false solutions, like Renewable Natural Gas, or combustion of hydrogen.

a. RNG Does Not Deserve Ratepayer Subsidies

The industry term "Renewable Natural Gas" comprises various sources, all with very different levels of GHG emissions, and varying levels of availability: landfills, wastewater sludge, agricultural residue, forestry and forest product residue, energy crops, municipal solid waste, or beef/poultry manure. All of these forms of RNG, when combusted, will produce the same co-pollutants as fracked methane gas.¹³

Despite offering no co-pollutant benefit over methane gas, RNG will be many times more expensive than fracked gas (or clean energy). Numerous studies, including those from the fossil fuel industry, forecast RNG costs at five to seventeen times the cost of fracked gas.¹⁴ RNG will

¹² "...DESC noted that on the morning of December 24, their solar resources began to produce energy, which, while after the morning peak, contributed to DESC's ability to pump water at its pumped storage facility so that its capacity would be available for the December 24 evening peak and the December 25 pre-dawn morning peak." *Id.* at 130. Wind energy production in higher-penetration areas west of the core Event Area (SPP, MISO) was high, especially during the onset of the Event on December 22 and 23. *Id.*

¹³ Earthjustice & Sierra Club, *Rhetoric vs. Reality: The Myth of Renewable Natural Gas" for Building Decarbonization* (2020), https://earthjustice.org/wp-content/uploads/report_building-decarbonization-2020.pdf. See also Laura Feinstein & Eric de Place, *The Four Fatal Flaws of Renewable Natural Gas*, Sightline Inst. (Mar. 9, 2021), <https://www.sightline.org/2021/03/09/the-four-fatal-flaws-of-renewable-natural-gas/>.

¹⁴ The American Gas Foundation estimates that RNG will cost up to \$45 per million British thermal units (MMBtus), which is up to 5 times more costly than the historically high market price for fossil gas which traded as high as \$8.59 in August 2022. Nat. Res. Def. Council, *Biogas and Synthetic Gas Not the Solution to Polluting Natural Gas in Today's U.S. Energy System* (June 15, 2020), <https://www.nrdc.org/media/2020/200615>. A California Energy Commission study estimates that biogas will cost \$8 to \$40 per MMBtu and that synthetic methane will cost \$37 to almost \$90 per MMBtu at scale in 2050. Cal. Energy Comm'n, *Natural Gas Distribution in California's Low-Carbon Future* (Oct. 2019), <https://ww2.energy.ca.gov/2019publications/CEC-500-2019-055/CEC-500-2019-055-D.pdf>.

also depend on the same gas infrastructure that underperformed during several recent winter storms, and is due for costly upgrades, as detailed above.

In sum - RNG provides no benefits in pollution reduction, affordability, or reliability. The current clean energy definition in the bill excludes, correctly, this false solution.

b. Hydrogen Combustion Does Not Deserve Ratepayer Subsidies

Green hydrogen production is an inefficient and expensive process that is not a good use of New Jersey's renewable energy resources. 70% of the renewable energy that goes into the production of green hydrogen is lost. To produce enough green hydrogen to replace all current industrial consumption of gray hydrogen would require the same amount of renewable energy currently produced by the entire European Union.¹⁵

Combusting any type of hydrogen in a power plant leads to nitrogen oxide (NO_x) emissions up to **six times** that of methane.¹⁶ These emissions cannot be controlled with existing power plant technology, and any plant combusting hydrogen would need extensive and costly retrofitting to be able to combust hydrogen at high levels safely.¹⁷ Even if NO_x emissions from hydrogen were able to be contained within permitted limits, we know that communities living near power plants currently emitting NO_x within permitted limits already experience heightened rates of heart disease, asthma, birth defects, and more. Including hydrogen combustion in this definition would resign these communities to more decades of disproportionate health impacts.

Because of its small molecular size and high flammability, hydrogen requires specialized infrastructure to be stored and transported safely. Building a hydrogen pipeline can cost up to 68% more per mile than a conventional fossil gas pipeline.¹⁸ In addition to being inefficient to produce, costly for ratepayers, and harmful to public health, all hydrogen is an indirect greenhouse gas that extends the lifetime of methane in the atmosphere.¹⁹

The bottom line: Green hydrogen will not help New Jersey meet its decarbonization goals. Including it under the definition of clean energy could divert renewable resources away from directly decarbonizing the grid, while costing ratepayers and harming environmental justice communities.

We appreciate the opportunity to submit this testimony, and we look forward to seeing the next version of this bill. Please do not hesitate to contact us to discuss.

¹⁵ Esben Hegnsholt et al., *The Real Promise of Hydrogen*, Boston Consulting Grp. (July 31, 2019), <https://www.bcg.com/publications/2019/real-promise-of-hydrogen>.

¹⁶ Mehmet Salih Cellek & Ali Pinarbaşı, *Investigations on performance and emission characteristics of an industrial low swirl burner while burning natural gas, methane, hydrogen-enriched natural gas and hydrogen as fuels*, 43 Int'l J. of Hydrogen Energy 1194 (2018).

¹⁷ Gen. Elec., *Hydrogen for power generation* (2022), https://www.ge.com/content/dam/gepower-new/global/en_US/downloads/gas-new-site/future-of-energy/hydrogen-for-power-gen-gea34805.pdf.

¹⁸ Earthjustice, *Reclaiming Hydrogen for a Renewable Future* (2021), https://earthjustice.org/wp-content/uploads/hydrogen_earthjustice_2021.pdf.

¹⁹ Ilissa B. Ocko & Steven P. Hamburg, *Climate consequences of hydrogen emissions*, 22 Atmospheric Chemistry and Physics 9349 (2022).

Attachment 1

754

11. (New section)

a. As used in this section:

"Class II renewable energy" means the same as the term is defined in section 3 of P.L.1999, c.23 (C.48:3-51).

"Class II renewable energy certificate" or "Class II REC" means a renewable energy certificate capable of satisfying the requirement for the procurement of Class II renewable energy established in paragraph (2) of subsection d. of section 38 of P.L.1999, c.23 (C.48:3-87).

"Energy year" means the same as the term is defined in section 3 of P.L.1999, c.23 (C.48:3-51).

"Substantive permit violation" means a violation that resulted in, or likely resulted in, air, water, or soil pollution in excess of the allowable limits under the relevant permit or other approval, including any violation that meets any one of the following requirements:

- Emission of any air pollutant in violation of the permit emission rate, emission concentration, or capture rate lasting longer than 30 minutes;
- Any violation of a permit condition that the facility has already violated two or more times over the course of the facility's operation;
- Any violation of any condition imposed pursuant to the Environmental Justice Law (NJSA 13:1D-157 to 161) or the Environmental Justice Regulations (N.J.A.C. 7:1C)

Deleted: as determined by the Department of Environmental Protection
Deleted: .

b. Notwithstanding the provisions of section 38 of P.L.1999, c.23 (C.48:3-87), or the rules and regulations adopted pursuant thereto, to the contrary, a Class II renewable energy facility shall not be eligible to receive a Class II REC or other similar financial incentive authorized by the Board of Public Utilities during an energy year, if, during the prior energy year, the Commissioner of Environmental Protection informed the Board of a Notice of Violation or an Administrative Order related to a substantive permit violation committed by the facility with respect to any permit issued to the facility by the Department of Environmental Protection, including an air pollution control permit issued pursuant to the "Air Pollution Control Act (1954)," P.L.1954, c.212 (C.26:2C-1 et seq.), or a permit or other approval issued pursuant to the "Solid Waste Management Act," P.L.1970, c.39 (C.13:1E-1 et seq.). At least sixty days before the start of the energy year, the Board shall initiate one comprehensive proceeding to determine the eligibility, under the criteria set forth in this section, of each Class II renewable energy facility to receive a Class II REC or other similar financial incentive authorized by the Board of Public Utilities.

Deleted: ¶

Deleted: undertook a final agency action that found that the Class II renewable energy facility committed

c. At least ninety days before the beginning of each Energy Year, the Department of Environmental Protection shall inform the Board of Public Utilities of all violations issued to each Class II renewable energy facility, with substantive violations highlighted, attaching all annual and semiannual reports submitted by the Class II renewable energy facility pursuant to 40 C.F.R. 60.59b(g) and (h) within the prior energy year. The Department shall also promptly inform the Board of any Notice of Violation or an Administrative Order related to a substantive permit violation committed by a Class II renewable energy facility. The Department is authorized to seek such information from the U.S. Environmental Protection Agency or any regulatory agency of another state in order to comply with its obligations under this provision.

Deleted: T
Deleted: promptly

Deleted: .
Deleted: final agency action related to a

d. The requirements of this section are nondiscretionary obligations.

Deleted: Neither the Department nor the Board may grant a hearing before complying with the requirements of this section.

76x

Attachment 2

77x

ACKNOWLEDGEMENTS

This report is presented by Earthjustice and the Vermont Law School Environmental Advocacy Clinic, in partnership with the Ironbound Community Corporation and the New Jersey Environmental Justice Alliance.

The report was written by Earthjustice (Jonathan Smith, Staff Attorney; Jasmine Jennings, Associate Attorney; Victoria Bogdan Tejada, Associate Attorney) and the Vermont Law School Environmental Advocacy Clinic (Rachel Stevens, Staff Attorney; Brittany Forrest, Student Clinician; Justin Wood, Student Clinician) with the assistance of Leslie Herrera, Litigation Assistant, Earthjustice; and Heather Gill-Frerking, Taylor Tavormina, and Veronica Ung-Kono, Student Clinicians, Vermont Law School Environmental Advocacy Clinic.

EXECUTIVE SUMMARY

Burning trash is a harmful and unjust way to manage waste. Incineration does not make waste disappear—instead it converts waste into air pollution and toxic ash that contaminate the surrounding communities, which more often than not are communities of color and low-income. And while incinerator companies label incineration as clean energy, incineration is one of the most polluting and most expensive methods to generate energy.

New Jersey is no stranger to the negative impacts of incinerators, many of which are located in the state's overburdened, environmental justice communities. Residents of these communities are more susceptible to asthma and COVID-19 due to the cumulative impacts from incinerators and other pollution sources. New Jersey's four currently operating incinerators (Covanta Essex, Covanta Camden, Covanta Union, and Wheelabrator Gloucester) and one recently closed incinerator (Covanta Warren) collectively:

- Emitted over 10,000 tons of air pollution and nearly 7 million tons of greenhouse gases from 2015 to 2018;
- Placed among the state's top 5 emitters of a dozen distinct air pollutants;
- Violated their air permits over 1,700 times since 2004; and

- Collected nearly \$30 million in "clean" energy subsidies from utilities and ratepayers since 2004, despite these emissions and violations.

But there is a better way to manage waste. By adopting zero-waste principles, we can create a society that uplifts a shared value of ourselves and our resources. To achieve this zero-waste future, New Jersey must:

- Remove incineration from the State's Renewable Portfolio Standard to stop subsidizing polluting incinerators with money intended for renewable, non-polluting sources of energy;
- Ban the construction or expansion of incineration facilities, and plan for the closure and remediation of existing facilities; and
- Prioritize job-creating, energy-saving, and community-affirming zero-waste solutions for waste management.

To stay in the loop about how you can help stop the burn and move New Jersey to a zero waste future, visit www.ironboundjustice.org.

80x

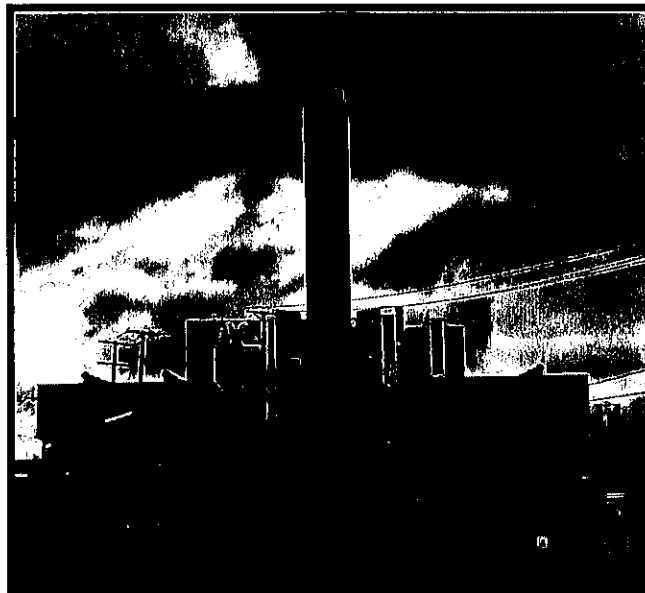
INCINERATORS ARE BIG POLLUTERS

In the United States...

Waste incinerators burn large amounts of trash in giant combustion chambers, converting the waste into air emissions and toxic ash. Some incinerators use the heat from this burning to produce steam that turns turbines to generate electricity—technology similar to how coal plants produce electricity. Though the incineration industry claims that this energy is clean and renewable, incinerators are the most emission-intensive form of generating electricity in the U.S. today, and can emit more air pollutants than coal plants per unit of energy—up to 18 times more lead, 14 times more mercury, 6 times more smog-forming nitrogen oxides, 5 times more carbon monoxide, 4 times more cadmium and hydrogen chloride, and 2.5 times more greenhouse gases.¹

Incinerators have a high quantity of unpredictable emissions because what they burn varies wildly depending on what trash happens to be collected at any given time.² The diesel trucks that transport waste to incinerators also spew harmful pollutants into the surrounding community.³ And the ash that incinerators produce can concentrate toxic chemicals like lead, cadmium, and

dioxins.⁴ These chemicals can be found at levels high enough that the ash needs to be disposed of as hazardous waste, even if the waste was non-hazardous before it was burned.⁵ Incinerators send this ash to landfills or to be used in products like concrete to build roads, where it can continue to harm communities.⁶ Pollution from incinerators can increase the risk of miscarriages, preterm birth, and non-Hodgkin's lymphoma in adults, and wheeze and fatigue in children that live and go to school nearby.⁷



Covanta Essex

In New Jersey...

Over the four years from 2015 to 2018, New Jersey's five municipal solid waste incinerators collectively emitted these harmful pollutants:

6,736,600 tons OF CARBON DIOXIDE	1,176 tons OF CARBON MONOXIDE	524 tons OF PM10 COARSE PARTICULATE MATTER (AKA SOOT)
8,437 tons OF SMOG-FORMING NITROGEN OXIDES	764 tons OF SULFUR DIOXIDE	485 tons OF PM2.5 FINE PARTICULATE MATTER

Over those same years, New Jersey's incinerators were some of the top emitters of air pollutants when compared to all 215 New Jersey major facilities with air permits:

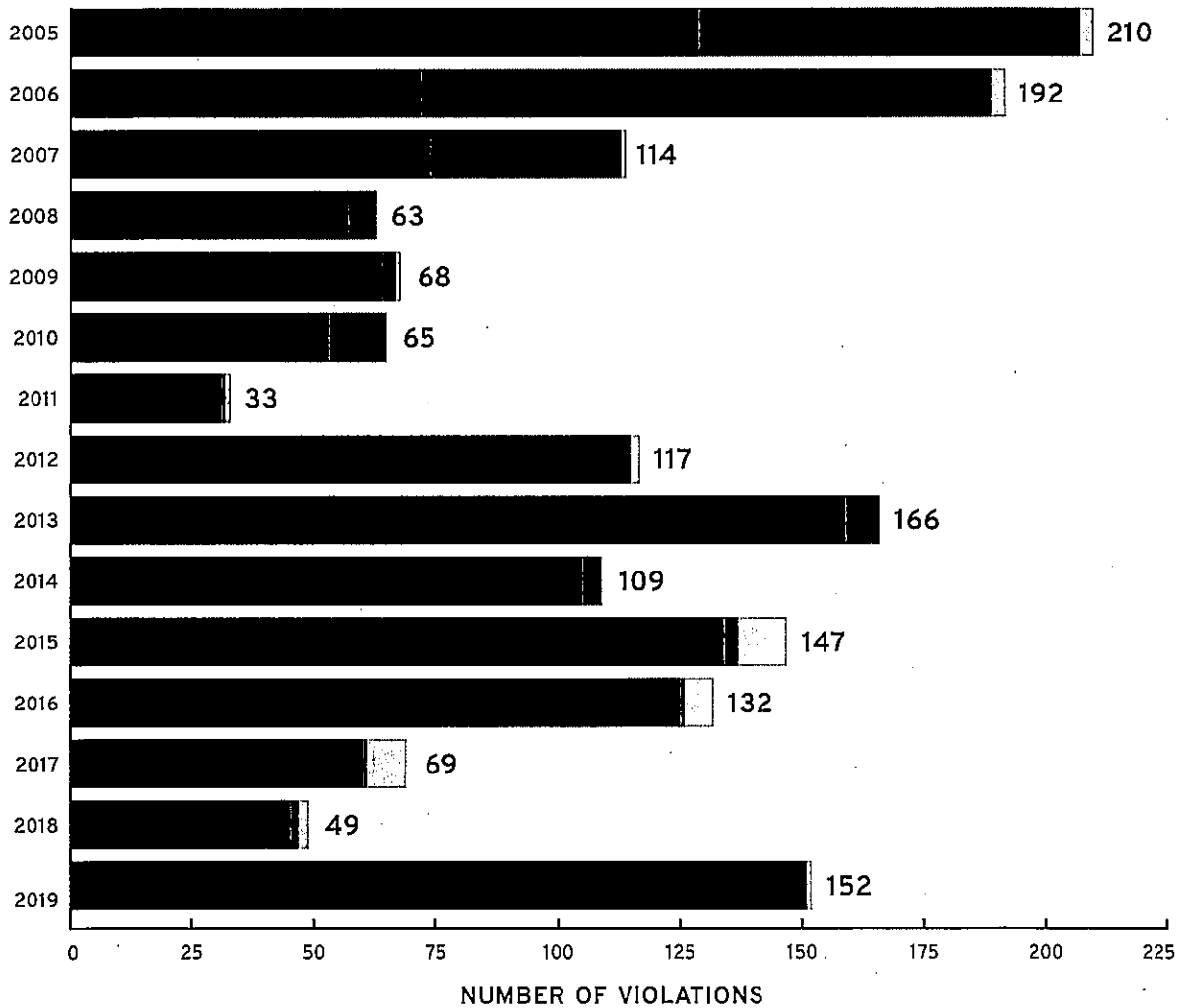
Covanta Camden	Covanta Union
<p>#1 EMITTER OF CADMIUM AND HYDROGEN CHLORIDE</p> <p>#3 EMITTER OF MERCURY AND LEAD</p>	<p>#3 EMITTER OF CHROMIUM, HYDROGEN CHLORIDE, AND PCBS</p> <p>#5 EMITTER OF NITROGEN OXIDES</p>
Covanta Essex	Covanta Warren
<p>#2 EMITTER OF ARSENIC, HYDROGEN CHLORIDE, MERCURY, AND NITROGEN OXIDES</p> <p>#3 EMITTER OF BERYLLIUM</p> <p>#4 EMITTER OF CARBON TETRACHLORIDE</p> <p>#5 EMITTER OF LEAD AND SULFUR DIOXIDE</p> <p>#6 EMITTER OF CARBON MONOXIDE</p>	<p>#5 EMITTER OF NICKEL</p>
	Wheelabrator Gloucester
	<p>#2 EMITTER OF POLYCYCLIC ORGANIC MATTER</p>

82X

In New Jersey...

While some of these emissions were allowed by the incinerators' air permits, many were not. Collectively, these incinerators violated their permits over 1,700 times since June 2004—sometimes with emissions two to eight times above permit limits.⁸

Total Air Permit Violations By Year, 2005-2019*



TOTAL VIOLATIONS BY FACILITY



*Violations may be undercounted. Only includes data from New Jersey Department of Environmental Protection Dataminer website.

83x

INCINERATORS HARM OVERBURDENED COMMUNITIES

In the United States...

Environmental justice, systemic racism, and pollution collide at the sites of incinerators across the country. According to a recent report by the New School, 79% of all municipal solid waste incinerators in the United States are located in environmental justice communities—communities of color or low-income communities that often bear a disproportionate burden of environmental harms.⁹ Between 67% and 83% of the twelve incinerators that emit the most nitrogen oxides, sulfur dioxide, lead, mercury, particulate matter, and carbon monoxide are located in environmental justice communities, depending on the pollutant.¹⁰ Environmental justice communities suffer from many health burdens including elevated blood levels, asthma, preterm births, and increased cardiovascular disease related morbidity and mortality rates.¹¹

Race is a significant predictor of living near a toxic facility.¹² This is not coincidental. While municipalities zoned suburban areas for single-family homes and commercial developments, urban or more densely populated areas retained industrial zoning requirements, leading to decreased land values.¹³ Redlining

policies that historically restricted access to home loans and mortgages segregated cities and caused divestment in communities of color.¹⁴ This created industrial “hot spots” where the placement of one facility invited others. As the pattern persisted, low-income residents and residents of color were pushed to reside in marginal lands that were ultimately selected for industrial development.¹⁵ Many of these neighborhoods became environmental justice communities, which suffer cumulative impacts from environmental hazards, unhealthy land uses and a lack of health, economic, or social benefits.

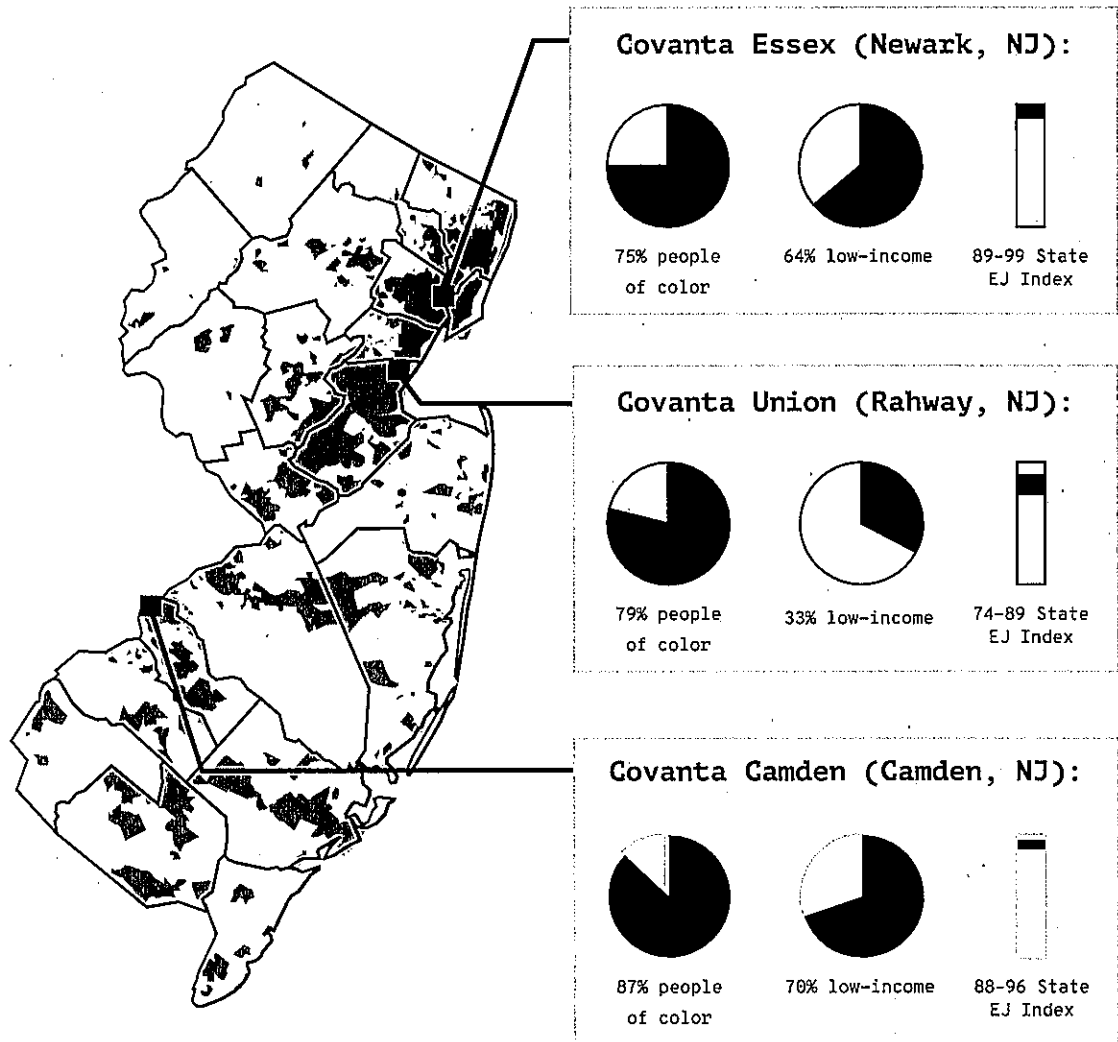
"Factories and superfunds polluting and dumping all kinds of things right down the street from low-income communities just shows how much they don't care. You don't see this happening at high-income communities, this shouldn't be happening next to any communities."

—NYHEIM CARTER, youth organizer

842

In New Jersey...

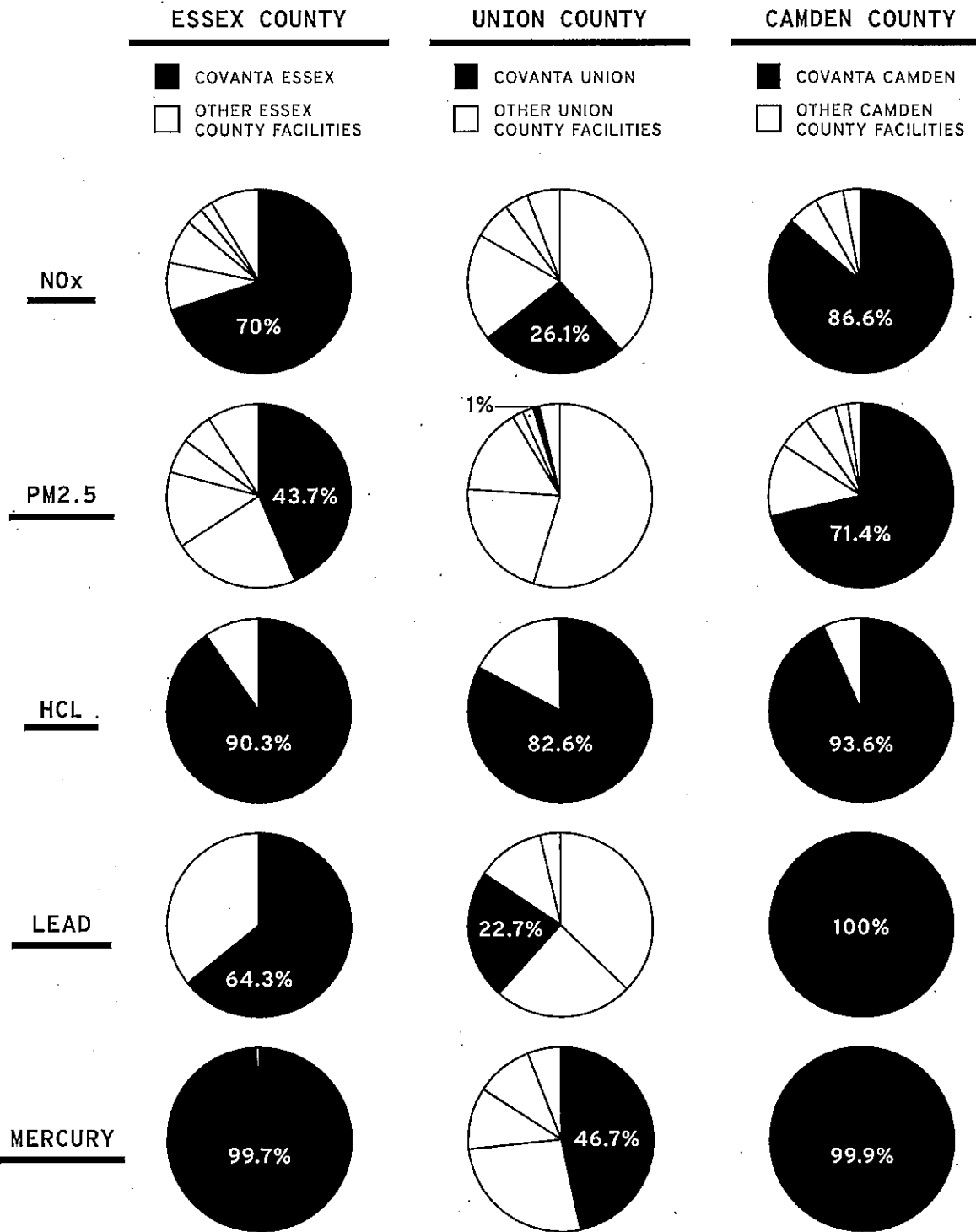
New Jersey's three largest incinerators are located in census blocks that New Jersey's recently enacted environmental justice law identifies as the equivalent of environmental justice communities (shown in blue below).¹⁶ According to the U.S. Environmental Protection Agency, the communities located within one mile of these three incinerators have some of the highest environmental justice indicators in New Jersey.¹⁷



All three of these incinerators are also within or adjacent to neighborhoods that the federal government redlined in the 1930's, a practice recognized as segregating cities and leading to divestment in communities of color and low-income communities.¹⁸ Over half a million people live within three miles of one of these three incinerators. Incinerators in these environmental justice communities emitted more air pollutants than other nearby stationary sources in 2015-2018 as shown on the next page:

85x

Emissions from Incinerators Compared to Other Stationary Sources in the Same County, 2015-2018



86 X

In New Jersey...

In addition, Covanta Essex and Covanta Camden, the two incinerators with the highest EJ indicators, are also the incinerators with the greatest number of permit violations since June 2004: over 800 for Covanta Essex, and over 400 for Covanta Camden.¹⁹ These include emissions over 8 times higher than the permit limit, emissions associated with the unpermitted burning of iodine, and multiple years in which a single incinerator had over 100 violations.²⁰

Waste incinerators are major emitters of pollutants like PM2.5 and NOx that, together with other socio-economic factors, make communities more susceptible to respiratory infections like COVID-19.²¹ Black and Latinx residents in the United States have been three times as likely to become infected from COVID-19 as white residents.²² Moreover, Black and Latinx people have been nearly twice as likely to die from the virus.²³ This pattern persists in New Jersey, where residents face cumulative impacts from multiple polluting sources, including incinerators such as those in Essex, Camden, and Union counties that are significant local contributors to PM2.5 and NOx emissions.²⁴ The communities that host incinerators in New Jersey have underlying public health vulnerabilities related specifically to COVID-19. A recent study found that COVID-19 was the #1 cause of death for Black, Latinx, and Asian people in New Jersey in 2020.²⁵ To date, Essex, Camden, and Union counties have reported some of the highest coronavirus death rates in the state.²⁶ Grounded in a history of exclusion and discrimination, incinerators in environmental justice communities contribute to existing public health risks on residents.

"As residents of the Ironbound for over 60 years, my family has suffered the devastating effects of pollution on the environment. We have endured lung cancer, breast cancer, colon cancer, and asthma—some of the most heinous of malignancies that have affected our loved ones. I stand against the development of any further incinerators or pollution causing chemical or manufacturing plants in the Ironbound. We deserve to breathe clean air!"

—IRIS ALVAREZ, community leader

87x

INCINERATORS DON'T DESERVE CLEAN ENERGY SUBSIDIES

In the United States...

Many incinerators are money-losing businesses that rely on significant government subsidies to stay afloat—often at the expense of the financial stability of their host municipalities.²⁷ Incinerators are costlier to build and operate per unit of energy produced than almost any other electricity generation technology in the U.S.—more than solar, onshore wind, or distributed generation.²⁸ To make up for these high costs, incinerators often charge their host municipalities above-market tipping fees for waste disposal, often requiring payment whether or not waste is sent to the incinerator.²⁹ This has pushed cities like Detroit, Michigan and Harrisburg, Pennsylvania towards, or into, bankruptcy just to prop up their incinerators.³⁰

Another way incinerators stay afloat is by syphoning subsidies intended for clean energy—while citizens foot the bill. Waste incinerators often use the heat energy created as a byproduct from burning trash to generate small amounts of electricity. Although the process pollutes and contributes to climate change, incinerators profit from that energy, calling it “renewable” for the purpose of State renewable energy

laws like Renewable Portfolio Standard (RPS) programs. These RPS programs set renewable electricity goals and require utilities to source a certain portion of the electricity they sell from “renewable” sources, and can create powerful incentives to shift to truly clean energy.

But about twenty-one States include waste incineration in these programs meant for “renewable” energy, even though waste incineration is neither clean nor renewable.³¹ Such classification, promoted by the incineration industry, makes burning trash eligible for subsidies that should be going to true renewable energy projects like wind and solar instead. Not only are incinerators slowing our transition to renewables, they contribute to climate change as the most greenhouse gas-intensive source of electricity.³² In 2018 alone, incinerators in the U.S. emitted 11 million tons of carbon dioxide.³³

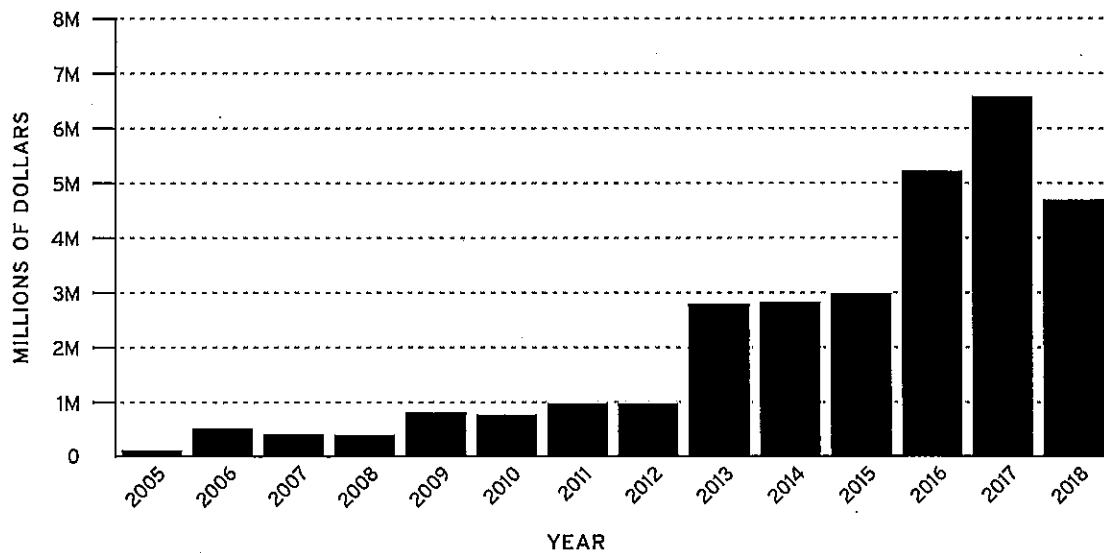
Solar and wind represent the cheapest, cleanest, and most productive forms of renewable energy.³⁴ Including incineration in legal definitions of renewable energy hampers investments in these cleaner, more equitable sources of local energy.

68x

In New Jersey...

New Jersey is one of the States that allows incinerators to exploit the RPS program and obtain subsidies as "renewable" energy. While New Jersey law requires eligible waste incinerators to meet "the highest environmental standards" and minimize "any impacts to the environment and local communities" in order to get these subsidies, most New Jersey incinerators have never met these requirements and the State has not enforced the law.³⁵ All five of New Jersey's incinerators have violated their air pollution permits nearly every year since 2004.³⁶ Despite all of these violations, electric utilities have paid over \$30 million in ratepayer money to New Jersey's incinerators under this program.³⁷

Annual RPS Subsidies to NJ Incinerators



"What I think about the incinerator is I think it's not good for Newark because it's right in the city where everyone lives and it can affect people that have heart problems. I grew up living next to the incinerator every time I go outside I am smelling burning garbage. I would like to see a homeless shelter instead of the incinerator because there are a lot of homeless people in Newark and I feel bad."

—ANGELINA POZO, garden crew youth

89X

INCINERATORS HAVE NO PART IN THE ZERO-WASTE SOCIETY WE NEED

In the United States...

Incinerators not only poison the air and harm the surrounding environment and community; they also block incentives to reduce waste because their business model depends on a consistent flow of trash to operate. But there is a better solution: zero waste, or the "conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health."³⁸

WHAT IS ZERO WASTE?

The goal for zero waste is to replace economic systems that create immense amounts of waste with sustainable and resilient systems without the need for waste or pollution. Zero waste strategies like recycling can save three to five times more energy than burning materials.³⁹ The zero-waste hierarchy sets forth the following measures to help us accomplish this goal:

- **Rethink/Redesign** how we develop and design products and services in a way that creates less waste from the beginning. One way to incentivize this is extended producer responsibility, which makes producers responsible for the entire product lifecycle, including disposal;
- **Reduce** consumption of non-biodegradable products, such as plastic, by buying reusable grocery bags or jars for fruits, vegetables, nuts, etc., and reduce food waste by incorporating food recovery and food co-op programs to redistribute "waste" items from businesses to those who need them;
- **Reuse** household products such as clothing, furniture, etc. to reduce waste;⁴⁰
- **Recycle** all recyclable materials through a mandatory municipal recycling program instead of throwing them into the trash. If public dumpsters are available, ensure that public recycling bins are also made available;

90x

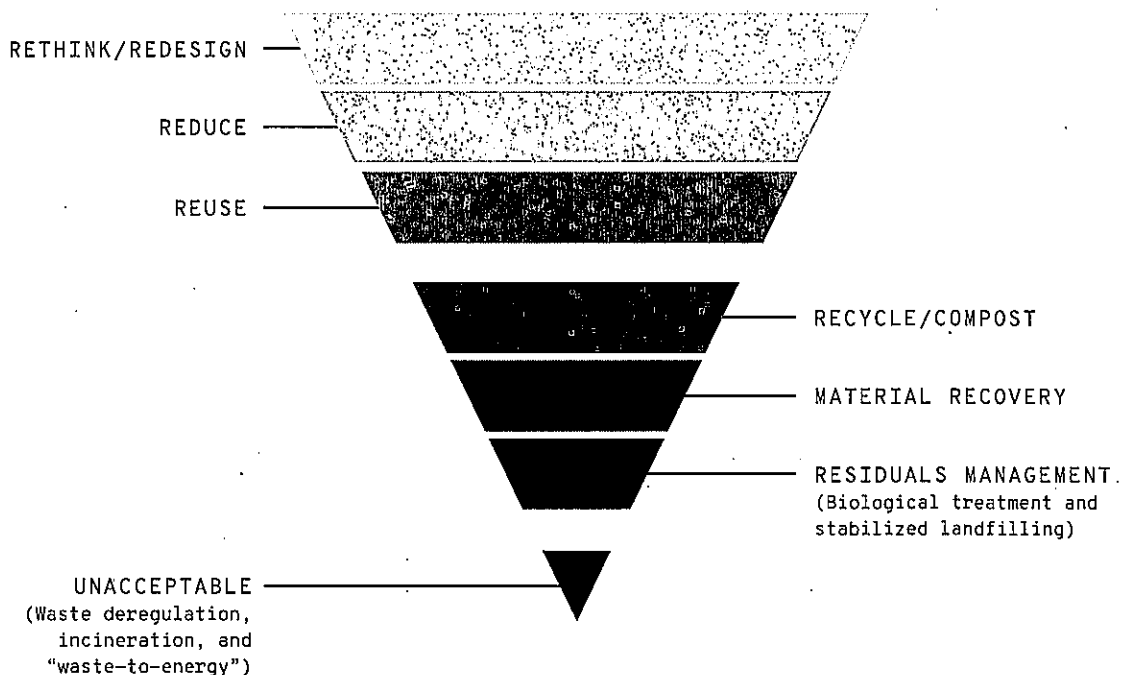
- **Compost** by putting organic materials back into the soil to provide nutrients, reduce waste and greenhouse gas emissions, and increase infiltration of rainwater;
- **Recover** materials through processes that separate used materials, such as metals, to be reintegrated into new products; and
- **Manage** residuals to place them back into the natural environment in a sustainable and non-polluting way, taking environmental and health factors into account.

Many cities have been successful in reducing waste through these zero-waste strategies. San Francisco, for example, diverts 80% of its waste from the

landfill through a municipal law that requires the separate disposal of recyclables, organic waste for composting, and landfill items—the city collects 650 tons of organic waste per day for composting.⁴¹ Baltimore has adopted a comprehensive zero-waste plan that aims to divert 90% of its waste from landfills and incineration.⁴² And in New Jersey, in just two years, Jersey City's program of compost drop-off locations and food-scrap buckets has collected over 50,000 pounds of organic waste to fertilize home gardens, parks, and community gardens across the city.⁴³

New York City is demonstrating how composting should be done at a local scale, e.g., within 1-5 miles of where disposed. Community composters in NYC,

The Zero Waste Hierarchy



91x

such as Big Reuse and Lower East Side Ecology Center, as well as micro-haulers that employ people of marginalized identities, such as BK Rot and Common Ground Compost, are providing New Yorkers with the knowledge and skills to produce and use compost locally.⁴⁴

Studies show that zero-waste solutions are job creators: on a per-ton basis, composting creates 4 times more jobs, recycling creates 10-25 times more jobs, and material reuse can create up to 296 times more jobs than landfilling or incineration.⁴⁵ A recent study estimates that deployment of these zero-waste principles could create over 11,000 jobs in New York City by 2030.⁴⁶

We must shift the paradigm from unjustly exporting waste to environmentally overburdened communities to instead implement local-scale zero-waste strategies that reduce the adverse effects of waste incineration. By

"We are spiritual beings having a human experience. The land that we are on is on borrowed time. We need to be reminded we are stewards of the earth and we are here to protect and nourish the land and not pollute it."

—TANISHA GARNER,
community leader

rethinking, reducing, and reusing the products we create, we can minimize waste and successfully reintegrate resources that would otherwise be disposed of back into the environment in a healthy and managed way. We can also mitigate the significant adverse impacts on human health, equity, and the environment that arise from sending trash to incinerators.



Down Bottom Farms community garden in Newark.

92X

POLICY RECOMMENDATIONS FOR NEW JERSEY

- End subsidies for waste incineration, such as by removing incineration from Renewable Portfolio Standards or other programs intended to benefit clean, renewable energy instead of polluting incinerators;
- Do not permit the construction of any new incinerators or any expansion of existing incinerators;
- Require the best available continuous monitoring and control technologies for all pollutants at existing incinerators, and fully enforce all environmental laws and permit conditions that apply to incinerators;
- Ban the incineration or landfilling of organic materials and unprocessed construction and demolition (C&D) materials;
- Close and decommission all existing incineration facilities by 2030, and require incinerator companies to provide sufficient financial assurances for remediation programs;
- In accordance with community input and consent, mandate and incentivize waste reduction, composting, organics collection, and recycling programs, prioritizing incentives for overburdened communities and historically disadvantaged peoples; and
- Ensure social safety nets, health care, wage and benefits guarantees, retraining, and priority job placement for workers in transition; create new union jobs for cleanup and restoration of polluted sites; and build infrastructure for cities to transition from incineration to zero waste.



Newark children demand clean air instead of pollution from local incinerators.

To stay in the loop about how you can help stop the burn and move New Jersey to a zero waste future, visit www.ironboundjustice.org.

93x

ENDNOTES

- 1 Comments of N.Y. State Dep't of Env't Conservation, *In 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* at 3-7, App. A fig. 3, 6 ("NYSDEC Comments"), Case No. 03- E- 0188, (Aug. 19, 2011), <https://waterfrontonline.files.wordpress.com/2017/12/deccommentsoncovantaauugust2011.pdf>; Comments of Attorney General Eric T. Schneiderman, *In the Matter of the Application of Covanta Energy Corporation for Modification of the List of Eligible Resources Included in the New York Main Tier of New York's Renewable Portfolio Standard Program to Include Energy From Waste (ETW) Technology* at 10- 16, Case No. 03- E- 0188SP29 (Aug. 19, 2011), <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7BC16488AD-4FB5-477B-95A9-6C7797FC7EFD%7D>; Environmental Integrity Project, *Waste-To-Energy: Dirtying Maryland's Air by Seeking a Quick Fix on Renewable Energy?* at 3- 9 (Oct. 2011), <https://web.archive.org/web/20131217055632/http://www.environmentalintegrity.org/documents/FINALWTEINCINERATORREPORT-101111.pdf>; Neil Tangri, *Waste Incinerators Undermine Clean Energy Goals*, Global Alliance for Incinerator Alternatives, 5 (2021), <https://doi.org/10.31223/X5VK5X>.
- 2 Ana Isabel Baptista & Adrienne Perovich, *U.S. Municipal Solid Waste Incinerators: An Industry in Decline* at 37- 38, Tishman Env't and Design Ctr. (May 2019), https://static1.squarespace.com/static/5d14dab43967cc000179f3d2/t/5d5c4bea0d59ad00012d220e/1566329840732/CR_GaiaReportFinal_05.21.pdf.
- 3 Global Alliance for Incinerator Alternatives, *Pollution and Health Impacts of Waste-to-Energy Incineration*, https://www.no-burn.org/wp-content/uploads/Pollution-Health_final-Nov-14-2019.pdf.
- 4 National Research Council; *Waste Incineration and Public Health* at 53-55, 64-65, Nat'l Academies Press (2000), <https://www.nap.edu/catalog/5803/waste-incineration-and-public-health>.
- 5 *Id.*
- 6 Xiaofei Sun et al., *A review on the Management of Municipal Solid Waste Fly Ash in American*, *Procedia Environmental Sciences* 31, 535 (2016), <https://core.ac.uk/download/pdf/82422979.pdf>.
- 7 Jean-François Viel et al., *Soft-tissue Sarcoma and Non-Hodgkin's Lymphoma Clusters Around a Municipal Solid Waste Incinerator with High Dioxin Emission Levels*, 152 *Am. J. Epidemiology* 13-19 (2000), <https://pubmed.ncbi.nlm.nih.gov/10901325/>; Silvia Candela et al., *Air Pollution from Incinerators and Reproductive Outcomes: A Multisite Study*, 24 *Epidemiology* 863-70 (2013), <https://pubmed.ncbi.nlm.nih.gov/24076993/>; Silvia Candela et al., *Exposure to Emissions from Municipal Solid Waste Incinerators and Miscarriages: A Multisite Study of the MONITER Project*, 78 *Environ. Int.* 51-60 (2015), <https://pubmed.ncbi.nlm.nih.gov/25765761/>; Yoshihiro Miyake et al., *Relationship Between Distance of Schools from the Nearest Municipal Waste Incineration Plant and Child Health in Japan*, 20 *European J. Epidemiology* 1023-29 (2005), <https://pubmed.ncbi.nlm.nih.gov/16331434/>; Baptista & Perovich *supra* note 2 at 37.
- 8 See Letter from Ironbound Community Corporation et al. to New Jersey Dep't of Env'tl. Protection et al. (Apr. 30, 2020), Attachment 3 (updated Sept. 28, 2020), https://earthjustice.org/sites/default/files/files/2020-04-30/icc_nieja_letter_bpu_dep.pdf.
- 9 Baptista & Perovich *supra* note 2 at 15.
- 10 *Id.* at App. E.
- 11 *Id.* at 34.
- 12 *Toxic Wastes and Race in the United States*, United Church of Christ Comm'n for Racial Just. (1987).
- 13 Baptista & Perovich *supra* note 2 at 13.
- 14 *Id.* at 14.
- 15 *Id.*
- 16 N.J. Stat. Ann. § 13:1D-158 (defining "overburdened community" as "any census block group, as determined in accordance with the most recent United States Census, in which: (1) at least 35 percent of the households qualify as low-income households; (2) at least 40 percent of the residents identify as minority or as members of a State recognized tribal community; or (3) at least 40 percent of the households have limited English proficiency." Since no pollution indicator is included in this definition, environmental justice advocates would most likely identify these as environmental justice communities, rather than overburdened communities.
- 17 See <https://www.epa.gov/eiscreen>.
- 18 See <https://dsl.richmond.edu/socialvulnerability/map/#loc=13/40.745/-74.158&city=essex-co.-nj&tract=34013007300> (Covanta Essex); <https://dsl.richmond.edu/socialvulnerability/map/#loc=13/39.91/-75.117&city=camden-nj&tract=34007611000> (Covanta Camden); <https://dsl.richmond.edu/socialvulnerability/map/#loc=14/40.612/-74.268&city=union-co.-nj&tract=34039036000> (Covanta Union).

94x

- 19 See *supra* note 8 at Attachment 3.
- 20 *Id.*
- 21 See Xiao Wu et al., *Air Pollution and COVID-19 Mortality in the United States: Strengths and Limitations of an Ecological Regression Analysis*, 6 *Sci. Advances* eabd4049 (2020), <https://advances.sciencemag.org/content/6/45/eabd4049> ("an increase of 1 µg/m³ in the long-term average PM_{2.5} is associated with a statistically significant 11% (95% CI, 6 to 17%) increase in the county's COVID-19 mortality rate."); see also Yaron Ogen, *Assessing Nitrogen Dioxide (NO₂) Levels as a Contributing Factor to Coronavirus (COVID-19) Fatality*, 726 *Sci. Total Env't* Article No. 138605 (2020), <https://www.sciencedirect.com/science/article/pii/S0048969720321215>.
- 22 Richard A. Opiel Jr. et al., *The Fullest Look Yet at the Racial Inequity of Coronavirus*, *N.Y. Times* (July 5, 2020), <https://www.nytimes.com/interactive/2020/07/05/us/coronavirus-latinos-african-americans-cdc-data.html>.
- 23 *Id.*
- 24 Ana Baptista, *Op-Ed: Coronavirus Crisis Demands Environmental-Justice Response*, *NJ Spotlight* (May 19, 2020), <https://www.njspotlight.com/2020/05/op-ed-coronavirus-crisis-demands-environmental-justice-response/>.
- 25 Colleen O'Dea, "New figures show how deadly COVID-19 is for Blacks, Hispanics, Asians in NJ," *N.J. Spotlight* (Feb. 1, 2021), <https://www.njspotlight.com/2021/02/covid-19-death-rates-minorities-communities-of-color-black-hispanic-asian>.
- 26 *New Jersey Covid Map and Case Count*, *N.Y. Times* (Feb. 10, 2021), <https://www.nytimes.com/interactive/2020/us/new-jersey-coronavirus-cases.html#county> (reporting that as of February 10, 2021, Essex County had 322 deaths per 100,000, Union had 306, and Camden County had 210).
- 27 See *supra* note 2 at 19-22.
- 28 U.S. Energy Info. Admin., *Cost & Performance Characteristics of New Generating Technologies, Annual Energy Outlook 2020*, at tbl. 8.2 (2020), http://www.eia.gov/forecasts/aeo/assumptions/pdf/table_8.2.pdf (estimating capital costs per kW generated from burning biomass to be double that of solar, onshore wind, or distributed generation, while fixed operations and maintenance costs are up to six times greater than these other energy sources); see also *Waste Incinerators Undermine Clean Energy Goals*, *supra* note 1.
- 29 Global Alliance for Incinerator Alternatives (GAIA), *Burning Public Money for Dirty Energy* 13 (2011), http://www.no-burn.org/wp-content/uploads/Burning-Public-Money-GAIA-2011_2.pdf.
- 30 *Id.* at 13, 28-29.
- 31 Food & Water Watch, *Cleanwashing: How States Count Polluting Energy Sources as Renewable*, 13, tbl. 2 (2018), https://www.foodandwaterwatch.org/sites/default/files/rpt_1807_rpsnationalscores-web4.pdf.
- 32 *Waste Incinerators Undermine Clean Energy Goals*, *supra* note 1, at 6.
- 33 U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018*, at 2-3 (2020), <https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf>.
- 34 U.S. Energy Info. Admin., *Cost & Performance Characteristics of New Generating Technologies, Annual Energy Outlook 2020* (2020), https://www.eia.gov/outlooks/aeo/assumptions/pdf/table_8.2.pdf.
- 35 *N.J. Stat. Ann.* § 48:3-51 (2013) (definition of "Class II renewable energy").
- 36 See *supra* note 8.
- 37 Generator Attributes Tracking System, <https://gats.njmeis.com/gats2/PublicReports/RPSRetiredCertificatesReportingYear> (Select Parameters "NJ" and reporting year, listed in GATS as "municipal solid waste facility" or "MSW"); cf. *New Jersey Clean Energy Program, RPS Compliance Reporting Results and Data 2005-2018*, <https://njcleanenergy.com/files/file/rps/EY18/RPS%20Comp%20EY%202005-2018.pdf>.
- 38 Zero Waste Int'l All., *Zero Waste Definition* (2018), [http://zwia.org/zero-waste-definition/#:~:text=%E2%80%9CZero%20Waste%3A%20The%20conservation%20of.Last%20updated%20December%2020th%2C%202018](http://zwia.org/zero-waste-definition/#:~:text=%E2%80%9CZero%20Waste%3A%20The%20conservation%20of.Last%20updated%20December%2020th%2C%202018;); see also Aditi Varshneya et al., *Global Alliance for Incinerator Alternatives, The Zero Waste Master Plan: A Guide to Building Just and Resilient Zero Waste Cities* ("GAIA Report") (2020), <https://www.paperturn-view.com/us/qaia/qaia-zero-waste-masterplan?pid=MTE115576>.
- 39 Jeffrey Morris, *Recycling Versus Incineration: An Energy Conservation Analysis*, 47 *J. Hazardous Materials* 277-93 (1996), <https://www.sciencedirect.com/science/article/abs/pii/0304389495001166>; Inst. for Loc. Self-Reliance, *Incinerator Myths* (2004), https://ilsr.org/wp-content/uploads/2012/02/incinerator_myths.pdf.
- 40 Ensuring that reusable items never reach an incinerator or landfill is also important to save money for the economy that would otherwise be wasted on creating new materials. For example, "Urban Ore, a reuse operation in Berkeley, California, keeps 7,000 to 8,000 tons out of the landfill annually and generates approximately \$3 million per year in revenue. Using the Urban Ore example, reusable items have an average value of \$400 per ton." GAIA Report *supra* note 38 at 6, 23.

95x

- 41 *How San Francisco is Becoming a Zero Waste City*, Youtube (June 30, 2016), https://www.youtube.com/watch?list=PL6C0BDD897A497CF6&v=Cq30A1s8-S1&feature=emb_title.
- 42 Balt. City Council, City Council Resol. No. 20-0202R, *Baltimore's Fair Development Plan for Zero Waste: 2020-2040 and Beyond for the Purpose of Calling on the Mayor, the Board of Estimates, and All Affected City Agencies to Formally Acknowledge and Move Forward in Implementing the "Fair Development Plan for Zero Waste"* (Apr. 6, 2020), <https://baltimore.legistar.com/LegislationDetail.aspx?ID=4390594&GUID=1386D7E3-E047-4518-A74F-AF63FEFD7FEC&Options=ID%7CText%7C&Search=>; Fair Dev. Roundtable, *Baltimore's Fair Development Plan for Zero Waste (2020)*, <https://cdn.ilsr.org/wp-content/uploads/2020/02/BaltimoreZeroWastePlan2020.pdf>.
- 43 Emily Nonko, *Jersey City's Composting Program Expands During Pandemic*, Next City (Sept. 16, 2020), <https://nextcity.org/daily/entry/jersey-citys-composting-program-expands-during-a-pandemic>.
- 44 See Big Reuse, <https://www.bigreuse.org/>; Lower East Side Ecology Center, <https://www.lesecologycenter.org/>; BK Rot, <http://www.bkrot.org>; Common Ground Compost, <http://commongroundcompost.com>.
- 45 Inst. for Loc. Self-Reliance, *Recycling Means Business* (Feb. 1, 2002), <https://ilsr.org/recycling-means-business/>; Global Alliance for Incinerator Alternatives, *Zero Waste and Economic Recovery*, at 3 (2021), <https://zerowasteworld.org/wp-content/uploads/Jobs-Report-ENGLISH-2.pdf>.
- 46 N.Y. Circular City Initiative, *Three Scenarios for Future Employment* (2020), https://assets.website-files.com/5e3d73eeaf2dec70808520e3/5f68cb57aa9627a90fc9caa0_three_scenarios_infographic_V2.pdf.

96x



Design by Hanh Le, okayhanh.com

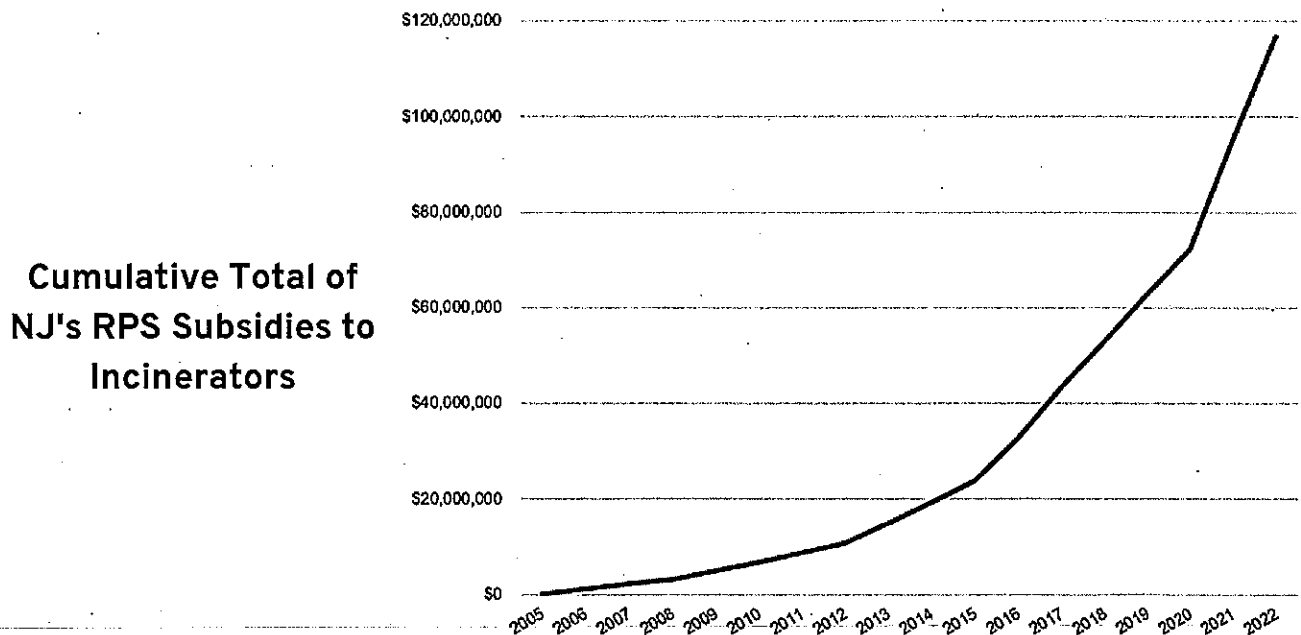
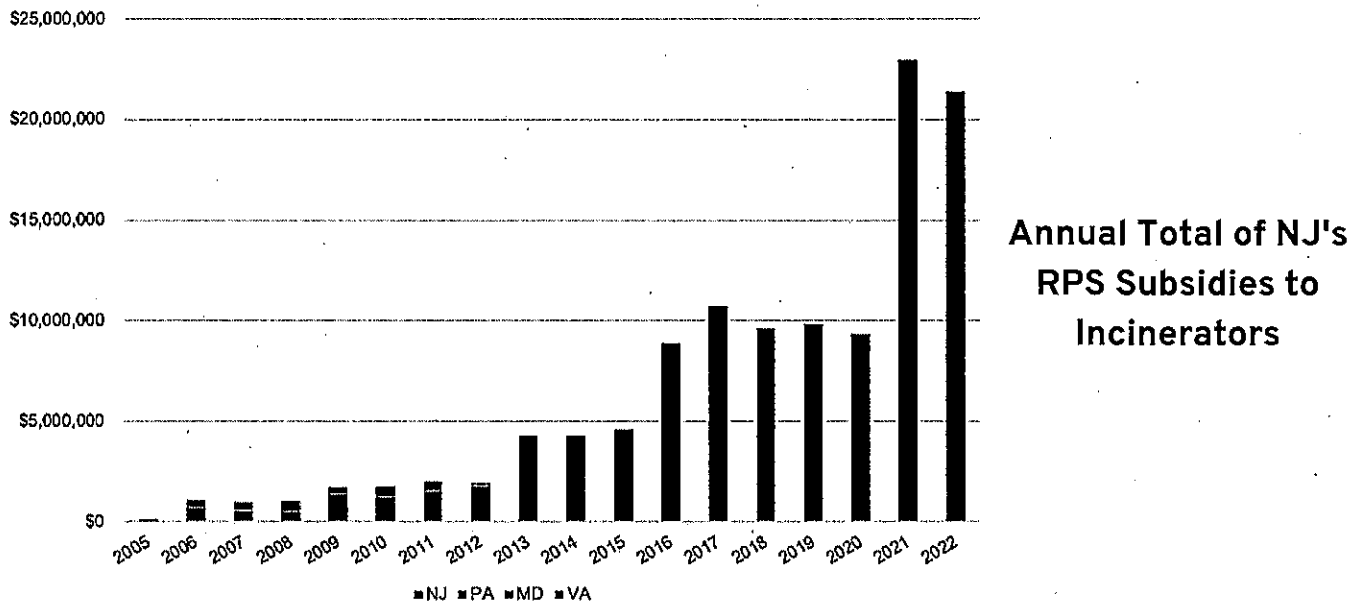
9.7x

Attachment 3

98x

NEW JERSEY'S DIRTY SECRET

Incinerators located in New Jersey, Pennsylvania, Maryland, and Virginia have received millions of dollars in subsidies from New Jersey as part of the state's RPS program. In particular, since 2004, New Jersey incinerators have received over \$60 million in subsidies, Pennsylvania incinerators have received over \$50 million, and Maryland incinerators have received over \$3 million. The cumulative amount that incinerators have received in subsidies from 2004 to 2022 is over \$116 million. This is especially egregious given that incinerators only provide 1% of the total electrical capacity in New Jersey. Learn more about this issue in the [New Jersey's Dirty Secret report](#).



99x

EXECUTIVE SUMMARY

Existing New Jersey state statute¹ and Board of Public Utilities code² restrict the size of residential solar systems under net metering to generate no more electricity than the home consumed in the previous year. I respectfully request that New Jersey Senate bill 2978 be amended to remove this cap on residential customer-generators. The cap discourages the adoption of clean renewable energy, costs residential customers adopting home solar thousands of dollars, delays the electrification of home heating and transportation, and discourages the preservation of New Jersey farmland and open space.

MEETING NEW JERSEY'S RENEWABLE ENERGY GOALS

Climate change is a clear and present danger to the health, safety, and economic well-being of New Jersey residents. The 2019 New Jersey Energy Master Plan (2019 NJ EMP)³ established the goals of "[ensuring] at least 75% of electricity demand is met by carbon-free renewable generation by 2050..." (2.1.2) and "[maximizing] solar rooftop and community solar development in urban and low- and moderate-income communities using the local workforce" (2.3.3). It also seeks to "decarbonize the transportation sector" (1.1) Ensuring that homes and automobiles run on clean renewable energy sources will require their full electrification.

Since New Jersey is the most densely populated state in the union⁴, it is desirable to *minimize* the conversion of farmland and open space to solar fields and *maximize* the use of roof-top solar (photovoltaic) installations on existing homes and commercial buildings to meet the goals of the 2019 Energy Master Plan. This distributed solar electricity generation offers two distinct advantages over electricity produced by centralized power sources: (1) It reduces the need for expensive power transmission infrastructure to carry power from the source to the end user and (2) By generating power close to end users (neighboring homes and nearby businesses), it avoids the energy losses incurred by long-distance electrical power transmission.

THE PROBLEM WITH CURRENT NET METERING RULES

The existing NJ BPU net metering rules² cap the size of new residential solar systems at 100% of a customer's prior annual electrical energy consumption. However, 73% of the homes in NJ are heated by natural gas⁵, and 95% of NJ residents drive vehicles with internal combustion engines (ICE)⁶. Gas furnaces and water heaters will need to be replaced by heat pumps. Gasoline burning automobiles will need to be replaced by electric vehicles. This leaves NJ homeowners with three choices

1. Install solar panels twice, once to meet their current electricity needs and then again in 5-15 years to meet their needs after full home and auto electrification.
2. Wait 5-15 years to install residential solar, after their home and auto are fully electric.
3. Do nothing.

NJ homeowners choosing the first option pay a penalty for the second installation of solar panels. "Soft costs" of residential solar represent approximately 65% of the total cost of installation⁷. Soft costs include all non-hardware costs such as permitting, financing, and installation labor and in New Jersey average almost \$10,000 per residential customer⁸. Soft costs are relatively insensitive to the size of the solar system and, unlike the cost of solar

100 X

panels, are unlikely to decrease as the technology advances. Therefore, the second solar system that these New Jersey homeowners install will cost them approximately \$10K more than if they had installed a single solar system with the generating capacity equal to their fully electrified needs. Even if only 10% of single-family homeowners take this first option, their additional cost will total approximately \$1.5 billion⁹.

Given the additional costs borne by NJ ratepayers choosing the first option, the majority of NJ homeowners will choose the second or third option. This will delay the transition to renewable energy and/or encourage the use of farmland and open space to meet the goals of the 2019 NJ EMP. Residential customers choosing the second or third option are also more likely to replace their old fossil fuel burning furnaces, water heaters, and cars with new fossil fuel burning furnaces, water heaters, and cars, absent large financial incentives to switch from fossil fuels to electricity,

SOLUTION

I propose the following solution.

1. Limit the size of residential solar installations to the maximum power that the customer's existing electrical service allows.
2. On an annual basis, the electric utility will purchase the excess electric energy generated by the customer-generator at wholesale rates, as is current practice.
3. Limit residential customer SREC sales to their annual electrical energy consumption prior to installation of their solar panels in order to maintain an equitable distribution of the incentives provided by SRECS,

These changes in the net metering rules would be consistent with the goals of the 2019 NJ EMP of 75% carbon-free renewable energy generation by 2050, maximizing solar rooftop development, and decarbonizing the transportation sector. In addition, this solution provides several benefits over the existing net metering rules.

1. It *maximizes* the use of roof-top solar installations in New Jersey and *minimizes* the conversion of farmland and open space to solar fields.
2. By supporting distributed solar electricity generation, it reduces the need for expensive power transmission infrastructure and avoids the energy losses incurred by long-distance electrical power transmission. In particular, it recognizes that not all roof-tops have the same potential for solar energy generation and allows roof-tops with optimal sun exposure to compensate for those with sub-optimal characteristics.
3. Since the customer-generator is credited with the retail price of the electricity that they use but only the wholesale price of the excess electric power that they produce, customer-generators with excess solar electricity generation will be incentivized to replace their fossil fuel burning furnaces, water heaters, and cars by their electric alternatives.

SUMMARY

NJ ratepayers cannot be expected to simultaneously electrify their heating and transportation needs AND install solar panels on their homes. The cost is simply too great. Given the current

101X

cap on the generating capacity of net metered systems, the rational choice for residential ratepayers is to delay the installation of solar panels until their homes and automobiles are fully electrified. However, this choice delays the transition to clean renewable energy sources and discourages the electrification of residential heating and transportation. Allowing residential customers to install solar systems that will meet their future electricity needs will hasten the transition to clean renewable energy, save money, preserve New Jersey farmland and open space, and bring us closer to meeting the goals of the 2019 NJ EMP.

REFERENCES

1. NJ S2605, August 25, 2020, "4. Section 38 of P.L.1999, c23 (C.48:3-87) is amended to read as follows: e. (1)"
2. New Jersey Administrative Code, N.J.A.C. 14:8-4.3(a) Net metering general provisions, annualized period selection
<https://www.njcleanenergy.com/renewable-energy/programs/net-metering-and-interconnection> "To be eligible for net metering, the generating capacity of a system cannot exceed the customer's annual electric needs." Accessed 11/10/23
3. https://www.nj.gov/emp/docs/pdf/2020_NJBPU_EMP.pdf Accessed 11/10/2023
4. <https://www.njspotlightnews.org/2023/08/new-jersey-is-the-most-densely-populated-state/> Accessed 11/17/2023
5. United States Energy Information Agency. New Jersey State Energy Profile
<https://www.eia.gov/state/print.php?sid=NJ> Data from 2022. Accessed 11/17/2020.
6. Electric vehicles (EV) registered in NJ as of June, 2023 = 123,551.
<https://dep.nj.gov/drivegreen/nj-ev-data/#:~:text=As%20of%20June%202023%2C%20there,Plug%2Din%20Hybrid%20Electric%20Vehicles> Accessed 11/8/2023. Total number of registered automobiles in NJ as of 2021 = 2,535,248.
<https://www.statista.com/statistics/196010/total-number-of-registered-automobiles-in-the-us-by-state/> accessed 11/8/2023. Percentage of NJ residents driving automobiles with ICE = $100\% \times (1 - (123,551/2,535,248)) = 95.1\%$. Note that this calculation assumes that all EVs are automobiles and that the total number of registered automobiles in NJ in 2023 equals the number in 2021.
7. Energy.gov, Solar Soft Costs Basics.
<https://www.energy.gov/eere/solar/solar-soft-costs-basics/#:~:text=Soft%20costs%20are%20the%20non,and%20cover%20their%20bottom%20line>. Accessed 11/17/2023.
8. <https://www.energysage.com/solar-panels/nj/> Accessed 11/17/2023. In the state of New Jersey, the average cost of solar panel installations range from \$12,792 to \$17,308. Taking the midpoint of this range (\$15,050) as the average cost of a solar installation, the average soft costs of New Jersey residential customers is $(65\%/100\%) \times \$15,050 = \$9,783$.
9. <https://www.infoplease.com/us/census/new-jersey/housing-statistics> Accessed 11/17/2023. The number of single-family attached or detached homes in New Jersey was 2.08 million as of 2020. The additional soft costs for the second installation of solar panels for the 73% of homeowners with natural gas heating can be estimated to be $(2.08 \text{ million homes}) \times (73\%/100\%) \times (\$9,783) = \$14.9 \text{ billion dollars}$. Ten percent of this total is \$1.5 billion.

1022