State of New Jersey
THE PINELANDS COMMISSION
PO BOX 359
NEW LISBON, NJ 08064
(609) 894-7300
www.nj.gov/pinelands

PHILIP D. MURPHY
Governor
SHEILA Y. OLIVER
Lt. Governor

General Information: Info@pinelands.nj.gov
Application Specific Information: AppInfo@pinelands.nj.gov

LAURA E. MATOS
Chair
SUSAN R. GROGAN
Acting Executive Director

MEMORANDUM

To: Members of the Pinelands Climate Committee

From: Susan R. Grogan
Acting Executive Director

Date: May 19, 2022

Subject: Meeting materials

Enclosed please find the agenda for the Committee's upcoming meeting on Friday, May 27, 2022. We have also included the following documents:

- The minutes from the February 25, 2022 Committee meeting;
- A memorandum from Commissioner Lohbauer, identifying specific conclusions and recommendations made in the recently issued Local Government Energy Audit reports for discussion. The full reports can be accessed through the Commission's website:

  https://njcleanenergy.com/files/file/LGEA/FY22/NJ%20Pinelands/LGEAFinal%20Report-NJPC-Fenwick+Carriage+Barn%20032122.pdf

  https://njcleanenergy.com/files/file/LGEA/FY22/NJ%20Pinelands/LGEA%20Final%20Report-NJPC-RJS%20Center%20032122.pdf

- A copy of the New Jersey Solar Act of 2021. Please note the highlighted language on pages 7-9, which incorporates limitations on the siting of grid supply and net metered solar facilities greater than five megawatts in size in certain portions of the Pinelands Area.
- In preparation for the discussion of the Committee's FY23 workplan and CMP amendments, a copy of the white paper previously submitted by the Pinelands Preservation Alliance. Also enclosed are two slides listing the issues and potential amendments to the CMP's existing solar energy facility regulations previously discussed with the Committee.

The Committee meeting will be conducted in-person and via teleconference. Specific access information will be provided to all Committee members in a separate email. The public will be able to attend the meeting in-person or view and participate in the meeting through the following YouTube link:

www.youtube.com/c/PinelandsCommission

State of New Jersey
THE PINELANDS COMMISSION
PO BOX 359
NEW LISBON, NJ 08064
(609) 894-7300
www.nj.gov/pinelands

PHILIP D. MURPHY
Governor
SHEILA Y. OLIVER
Lt. Governor

General Information: Info@pinelands.nj.gov
Application Specific Information: AppInfo@pinelands.nj.gov

LAURA E. MATOS
Chair
SUSAN R. GROGAN
Acting Executive Director

PINELANDS CLIMATE COMMITTEE MEETING

May 27, 2022
Immediately Following the 9:30 a.m. Policy & Implementation Committee Meeting

This meeting will be held in-person and virtually
Richard J. Sullivan Center for Environmental Policy and Education
Terrence D. Moore Conference Room
15C Springfield Road
New Lisbon, New Jersey
Watch the meeting on the Pinelands Commission's YouTube channel:
www.youtube.com/c/PinelandsCommission
To Provide Public Comment, Please Dial: 1-929-205-6099 Meeting ID: 822 7489 6113

Agenda

1. Call to Order

2. Adoption of the February 25, 2022 Committee meeting minutes

3. Discussion of ongoing Pinelands Commission office initiatives

    - Local Government Energy Audit
    - Rain garden design and installation

4 Update on state initiatives

    - NJDEP's Protecting Against Climate Threats (PACT) rulemaking efforts
    - Forest Stewardship Task Force
    - 2021 Solar Act and BPU Competitive Solar Incentive (CSI) Program

5. Discussion of FY2023 Climate Committee work plan

    - Resilience Action Plan for the Interagency Council on Climate Change
    - CMP Amendments

6. Public comment

PINELANDS CLIMATE COMMITTEE MEETING

This meeting was conducted remotely
All participants were present via Zoom conference
The public could view/comment through Pinelands Commission YouTube link:
https://www.youtube.com/channel/UCBgpC8sbR3Acrjo7ppxs3Uw
Meeting ID: 844 3799 7322

February 25, 2022

Immediately following the 9:30 a.m. Policy & Implementation Committee Meeting

MINUTES

MEMBERS IN ATTENDANCE: Chairman Mark Lohbauer, Shannon Higginbotham, Jerome H. Irick, and Edward Lloyd

MEMBERS ABSENT: Alan Avery

OTHER COMMISSIONERS PRESENT: Chair Laura Matos, Theresa Lettman

STAFF PRESENT: Acting Executive Director Susan R. Grogan, Stacey P. Roth, Jessica Lynch, Charles Horner, Ed Wengrowski, Brad Lanute, Katherine Elliott, Steven Simone, Trent Maxwell, John Bunnell, Ernest Deman, Devin Walker, Paul Leakan, and Dawn Holgersen. Also present was Janice Venables, with the Governor's Authorities Unit.

1. Call to Order

Chairman Lohbauer called the Pinelands Climate Committee meeting to order at 10:39 a.m.

2. Adoption of minutes from the December 1, 2021 Pinelands Climate Committee meeting

Commissioner Higginbotham moved the adoption of the minutes of the December 1, 2021 Committee meeting. Commissioner Lloyd seconded the motion. All voted in favor.

3. Update on outgoing Pinelands Commission office initiatives

Local Government Energy Audit

Ms. Grogan said that the Commission was approved for the local government energy audit program. She said that Jessica Lynch, the Commission's Business Services Manager, hosted a site visit to inspect the Commission's offices.

Ms. Lynch said that on January 19, 2022, there was a full facility walkthrough. She said the consultant, through the Board of Public Utilities (BPU), was from The Research Corporation (TRC). She said they took many pictures during the visit.

She said that the Commission has received draft audit reports. She said it is in two parts. The first one is for the Richard J. Sullivan (RJS) Building. The second one is for the combined units of Fenwick Manor, the carriage house, and the barn, as they are on a campus meter. She said that the draft reports need to be reviewed within 30 days, then the reports will be finalized. She mentioned the possibility of having a presentation of the results to the Commission.

Chairman Lohbauer mentioned that the Batsto Visitors Center will be using a geothermal unit to provide their facility with heating and cooling. He suggested that it could be a guide for the Commission to use for more efficient heating and cooling.

Rain garden design and installation

Paul Leakan, the Commission's Communications Officer, provided an update on a project to install a rain garden at the Commission's office.

He said that, since the last meeting, the Commission has entered into an agreement with Rutgers Cooperative Extension to design and oversee the installation of the rain garden. He said the services will cost about $4,000.

Mr. Leakan said that the preferred location has been selected for the placement of the rain garden. He said that it will be near the front and side entrances to the RJS Building. He said the rain garden will have an area of about 650 square feet. He said there will also be a bioswale, which is similar to a rain garden, but it conveys water and allows some infiltration.

He said that a concept drawing is forthcoming. He said the project manager came out on the same day as the energy audit. He said they conducted a two-hour survey. He said that they used a measuring tool that will upload information into architectural software. He mentioned that 181 photos were taken.

Mr. Leakan said that the drafted drawings should be completed by March 16th. He said those drawings will be reviewed for possible feedback. He said that upon signoff, the project will move on to receiving signed engineering drawings. From there, he said, there will be a determination of a contractor for any digging. He also said that plants will then be selected, and supplies will be ordered. He said he provided Rutgers with a list of native Pinelands plants.

He said that there will also be a decision on the placement of a wayside panel to educate visitors on the purpose of the rain garden. He suggested that the Commission staff could create the images for the panel.

In response to Chairman Lohbauer's question as to the timeframe for the project, Mr. Leakan said that Rutgers will provide a timeline, and it is anticipated that the project will start in the spring.

Chairman Lohbauer praised Mr. Leakan for providing a list of native Pinelands plants. Mr. Leakan emphasized the importance of the Commission's list to provide clarity on the subject. He said that the Commission is committed to using only native Pinelands plants in the construction of the rain garden.

Commissioner Irick commended Mr. Leakan for his work and asked if signage will be used to identify individual plants. Mr. Leakan replied that it has been done in other garden projects at the Commission's headquarters. He said that they will use the same types of markers.

4. Update on State initiatives

Ms. Grogan indicated that the state is involved in a number of initiatives. She said they were put on the agenda to make the Commissioners aware of the State's efforts and how the Commission fits in to them.

New Jersey Interagency Council on Climate Resilience

Ed Wengrowski, the Commission's Environmental Technical Coordinator, presented a slideshow on the New Jersey Interagency Council on Climate Resilience (NJIAC) (*attached to these minutes).*

Mr. Wengrowski mentioned that the Commission had received an invitation to participate on the Council. He said that Commission staff will be asked to contribute to the work of the Council.

He said that the Council was created through Executive Order No. 89, which was signed on October 2019. He said that it was established to develop short- and long- term action plans to promote the long-term mitigation, adaptation and resilience of the State's economy, communities, infrastructure and natural resources.

He said the Council will support the development and implementation of the State's Climate Change Resilience Strategy.

Mr. Wengrowski said that the NJIAC is Chaired by Jane Cohen, Executive Director of the Office of Climate Action and the Green Economy. He mentioned that the former Vice-Chair was the State's first Chief Resilience Officer, Dave Rosenblatt, who retired at the end of 2021. He said that the new Chief Resilience Officer is Nick Angarone of the New Jersey Department of Environmental Protection (NJDEP) Coastal Management Program.

He said that NJIAC held its first meeting in December 2019 and the participating agency liaisons have met monthly since August 2021. He said that the Commission was invited to join the Council in October 2021.

He said that Susan Grogan, Acting Executive Director, serves as the Commission's Principal Member. Mr. Wengrowski is the Commission's Primary Liaison to the Council.

Mr. Wengrowski said the NJIAC issued the NJ Climate Change Resilience Strategy in October 2021. He said the six identified priorities are to build resilient and healthy communities, strengthen the resilience of NJ's ecosystems, promote coordinated governance, invest in information and increase public understanding, promote climate-informed investments and innovative financing, and development a coastal resilience plan.

He said that the Council has recently developed an Operating Principles document. He said that document establishes the NJIAC governance structure, outlines expectations for primary liaison members, and sets the meeting structure for cabinet-level meetings, primary liaison meetings, working group meetings and Steering Committee meetings.

He said the Council is currently developing a workplan document.

Mr. Wengrowski said that the Commission will be asked to develop an action plan for implementation that addresses the items identified in Executive Order No. 89. He said the Commission will also be asked to provide periodic updates to the Council on Commission actions in furtherance of meeting the objectives in the Executive Order.

He said that the work of the Climate Committee will be brought to the NJIAC.

Chairman Lohbauer asked if the NJIAC has given the Commission a timeframe to develop an action plan. Mr. Wengrowski replied that it has not been specified. He went on to say that the Vice-Chair is working through the agencies to provide updates. He said that it is likely that within the coming months, up to 12 months, the Commission will be asked to make a presentation.

Chairman Lohbauer also asked if the NJIAC has established an outline for what should be in the plan. Mr. Wengrowski said yes, and that it is in development. He said that all of the agencies are participating in the development of that outline.

In response to Chairman Lohbauer's question about Committee input, Mr. Wengrowski said that Commission staff will be looking to the Committee for the actions that will be presented to the Council.

<u>Forest Stewardship Task Force</u>

Chairman Lohbauer mentioned that last year there were several Legislative bills regarding forestry. He said that through Stacey Roth, the Commission's Chief of Legal and Legislative Affairs, the Committee had discussions on the matter. He said she kept them updated. He also said that those bills did not progress in the Legislature.

He said that Senator Bob Smith is interested in replacing the bills and may be seeking guidance from the Forest Stewardship Task Force. Chairman Lohbauer said that he is interested to see what role the Commission staff may have in the Task Force, considering how much the previous bills would have impacted the Pinelands.

Ms. Grogan said that there isn't much to update beyond what is already posted online and in newspapers. She said that Senator Smith recently announced the formation of the Task Force and named four co-chairs. She said the representatives are from the NJ Audubon Society, NJ Forestry Association, NJ Conservation Foundation, and Sierra Club. She said there has been no information on other members of the Task Force.

Ms. Grogan said that staff sent an email to the designated address, requesting an opportunity for the Commission to participate. She said the email outlined the importance of forestry in the Pinelands. She said that the Commission received a form response expressing thanks for showing interest.

She said the purpose of the Task Force is to study and identify ways the State can better manage forests in order to fight climate change, prevent forest fires, and to improve the ecosystem and water quality.

Ms. Grogan said that the Task Force will meet, gather feedback, and speak with stakeholders to compile a report to submit to the Senate Environment and Energy Committee. She said there is no timeline for this to occur.

She said that staff will monitor the Task Force for updates and may reach out to Senator Smith's office as well.

Commissioner Irick expressed disappointment in the generic response received from the Task Force. He said that the Commission should have a full seat at the table and suggested sending a formal letter to Senator Smith with a request for such.

Chairman Lohbauer commented that it seems that Senator Smith is aiming to receive input from the public on this matter. Ms. Roth confirmed that currently there are no agencies linked to the Task Force. She mentioned that the Commission could send a letter to Senator Smith or try to reach out to the co-chairs.

Commissioner Irick stressed that Senator Smith should be reminded of the importance of the forest protection plan in the Pinelands.

Chairman Lohbauer suggested that the letter to Senator Smith note the existence of the Climate Committee and its active interest in forestry management issues in the Pinelands. He said that he would like to see the Commission have a role in the Task Force.

Commissioner Lloyd and Chair Matos echoed the sentiment expressed by Commissioner Irick and Chairman Lohbauer. Chairman Lohbauer also mentioned that about half of the forested land in the state is in the Pinelands.

Natural and Working Lands Strategy

Ms. Grogan presented a slideshow on the Natural and Working Lands Strategy (NWLS) (*attached to these minutes*).

Ms. Grogan said that the Natural and Working Lands Strategy is a joint effort between NJDEP and the New Jersey Department of Agriculture.

She said that a scoping document was released on NJDEP's website in December 2021. She said there will be targeted stakeholder sessions held in spring/summer 2022. She said the goal is for a NWLS final document to be released later in the year.

Ms. Grogan said the scoping document identifies recommended strategies in the subject areas of forests, agricultural lands and aquaculture, grasslands, wetlands, developed lands, and aquatic resources and habitats.

She said that the scoping document topics for forestry will be to preserve forested areas to avoid conversion, forest restoration, pro-forestation, a wildfire tracking system and prescribed burns, active forest management best management practices (BMPs), and to continue forest stewardship programs for private landowners.

Ms. Grogan said the agricultural lands and aquaculture priorities are to incentivize climate-friendly agricultural practices, create landowner assistance programs, reduce tillage practices and disturbances to limit carbon loss, plant carbon-sequestering cover corps, encourage "precision agriculture" which minimizes inputs, adopt aquacultural practices that consider ocean acidification, and expand technical assistance and cost-share assistance to encourage conservation practices on farms. She said they are goals the NJDA and State Agriculture Development Committee (SADC) have been working on for years.

She said the topics outlined for grasslands are to preserve grasslands to avoid conversion, encourage the creation of grasslands, minimize soil disturbance in pastures to reduce carbon loss, restore degraded grasslands by increasing plant diversity and planting productive species, and to increase production of forage for livestock.

She said the wetlands goals are to create, enhance and restore tide marshes and Atlantic white cedar wetlands, protect and rebuild salt marsh edges with living shorelines, remove tidal restrictions to increase saltwater flow into wetlands, preserve upland areas that are expected to become salt marshes as sea levels rise, preserve tidal marshes to avoid conversion, and develop blue carbon BMPs.

Ms. Grogan said the focus for developed lands is to prioritize funding for good forest strategies in urban forests, promote urban greening and reduction of impervious surfaces, expand the Urban & Community Forestry program to encourage and protect planting, target preservation of forested and grassland areas in urban and developed areas, and to encourage green infrastructure such as stormwater BMPs.

She said the aquatic resources and habitats goals, which are primarily coastal, are to restore and protect seagrass habitat, extend Marine Conservation Zone to seagrass beds, and to develop an ocean acidification plan to address impacts to fisheries, aquaculture, and ocean resilience. She said that these subjects are not particularly related to the Pinelands.

Chairman Lohbauer asked if the outcome of the NWLS could lead to CMP amendments. MS. Grogan replied that it is possible, although it is uncertain whether the strategy will go into enough detail for that to happen. She said some items may lead to prioritization for funding or grants.

In response to a question from Commissioner Lloyd, Ms. Grogan said that CMP amendments related climate change will be included in the Policy & Implementation Committee's April discussion and prioritization of CMP amendments.

Chairman Lohbauer commented that he is glad to see other agencies working on these issues. He said that it removes some of the burden on Commission staff.

5. Discussion of draft resolution to acknowledge the goals of the NJ Global Warming Response Act and frame the discussion of future CMP amendments related to climate impacts

Chairman Lohbauer commented that the idea for this resolution came from a member of the public.

Ms. Grogan said that Chairman Lohbauer identified three goals at the last Committee meeting. She said they were to draft a formal acknowledgement of the NJ Global Warming Response Act, look at the Commission's operations to see what can be done in-house, and move forward with consideration of CMP amendments.

She said to start, she looked back at the original resolution that was introduced by the Committee. She said that it did create a good framework outlining the responsibilities of the Committee. She said that any new resolution should build upon it.

She said the resolution was drafted to amend and supplement the original resolution and to mention more about the NJ Global Warming Response Act. She said it also references the State's goals and the NJDEP 80x50 Report to reduce emissions to 80 percent below the 2006

levels by the year 2050. She said it is important for the Commission to formalize its commitment to meeting those goals.

Ms. Grogan said the Committee will consider the strategies in the NJDEP 80x50 Report as it develops and considers policies and possible CMP amendments relating to climate change.

She said that many state agencies are using the same wording and reports as they move forward. She said the resolution would be a good way for the Commission to formally recognize that it is looking at the same goals and documents.

Chairman Lohbauer expressed his appreciation in the approach taken for the resolution. He said it will be a good way to recognize that the Commission is mindful of maintaining consistency with the legislation in place.

Commissioner Lloyd moved the recommendation to forward the resolution to the full Commission. Commissioner Higginbotham seconded the motion. All voted in favor.

6. Public Comment

Fred Akers, from the Great Egg Harbor Watershed Association, mentioned an issue about dredge spoils. He said that during the last three months, he has processed three applications to take dredge spoils from the Brigantine/Atlantic City area and place it along the Tuckahoe River in Estell Manor and Corbin City. He said that the State has set up the process and it seems to be accelerating the amount of material being transferred from the coast to the Pinelands. He said, in those three months, the total cubic yards (cu. yd.) of material have been over 117,000. He said that at 20 cu. yd. per truck, it would amount to around 5,800 truckloads of dredge spoils moved to the Forest Area of the Pinelands.

He said that there is talk and work that has been done for engineering with nature and regional sediment management planning with the idea that, instead of digging dredge spoils and leaving a hole, to take that material and elevate marshes or expand islands that have been eroded to help with climate resilience. He said that he has made comments to the State and the Army Corps of Engineers and doesn't think he's getting anywhere. He said that he wanted to bring it to the attention of the Committee and the Commission. He is hoping that the Commission could help stop the dumping of dredge spoils in the Pinelands.

Chairman Lohbauer asked Mr. Akers if the activity had anything to do with the replenishment of beaches. Mr. Akers replied that it's in back bay areas that's relative to navigating boats. He said the sediment erodes off the marshes and builds up in the channels, making it shallow for the boats. He said it's an issue where Congressman Jeff Van Drew and the new Senator from Atlantic County are pushing for more dredging.

Chairman Lohbauer said that he is not aware of any applications relating to that activity. Mr. Akers said that Commission staff are aware of the situation.

Commissioner Irick asked if dredge spoils are moved to Estell Manor, would tree clearing be done to lay the spoils. Chairman Lohbauer said that he believes the Commission would not allow it.

Ms. Roth indicated that this activity is usually seen in the Pinelands National Reserve (PNR), where the Commission does not have primary jurisdiction. She said the Commission does provide comment to NJDEP on those matters. She said there is one application to the NJDEP to create a dredge spoils facility. She said that the Commission issued a letter stating that the facility would not be consistent with CMP water quality standards.

She went on to say that whenever fill is placed on a parcel in the Pinelands, it cannot exceed background in terms of its potential for contaminants or constituents within the soil. She said that comments are made to NJDEP when it relates to applications in the PNR. She said that NJDEP takes the position that applications do not have to be in strict compliance with the standards in the CMP; rather, they must be generally consistent with the Federal Act and intent, goals and objectives of the CMP.

To further answer Commissioner Irick's question, Ms. Roth said that NJDEP would be doing the permitting on tree clearing for those facilities. She said that staff is involved. Ms. Roth said that she and Branwen Ellis, a Commission Environmental Specialist, had discussions with NJDEP on the matter of placing dredge spoils. She said a recommendation was made that applications not be approved by NJDEP for placement of dredge spoils because of the possibility of contaminants in the soils.

In response to Chairman Lohbauer's question, Ms. Roth said that the matters she has seen have been in the PNR.

Charles Horner, the Commission's Director of Regulatory Programs, said that staff have received inquiries relating to the placement of dredge spoils. He said that upon receiving guidance that it must be demonstrated to be consistent with the CMP standard for non-degradation, the inquiries do not move forward to an application. He said that generally in the staff's experience, the dredge spoils have contained contaminants.

Rhyan Grech, from the Pinelands Preservation Alliance (PPA), mentioned the upcoming appearance being made by NJDEP Commissioner Shawn LaTourette at the Commission's March 11th meeting. She suggested that the Commission speak to Mr. LaTourette about the matter of dredge spoils and recommend aligning what happens in the PNR with the standards in the CMP. She said the Memorandum of Agreement (MOA) with NJDEP does state that it will uphold the goals and intent of the Pinelands Protection Act and the CMP. She said she would argue that non-degradation is an important goal.

Ms. Grech thanked Mr. Leakan for his update on the rain garden project. She said that it is wonderful that the project will use native Pinelands plants.

She mentioned that the PPA previously submitted a list of recommendations on climate change for consideration by the Commission. She said one of the recommendations is around plants. She said that under the CMP, no development can occur unless it avoids irreversible, adverse impacts to plants that are designated as endangered by the NJDEP. She said there is a list of 54 plant species. She said the PPA feels that the list is outdated. She recommends the language be amended to include plant populations listed as endangered and species of concern by the NJ Natural Heritage Program. She said it would align with the Highlands Protection standards.

Ms. Grech thanked the staff for the work being done with the State initiatives. She suggested that the Climate Committee meet monthly. She said it is critical to align with the State initiatives. She also said there is plenty that can be done in the Pinelands without waiting for the NJDEP or other State agencies. She said the situation with climate change calls for that kind of urgency.

Chairman Lohbauer thanked the PPA for its submission of recommendations. He said the recommendations have been circulated to all the Commissioners.

Jessica Rittler Sanchez said she is glad to see that the Commission is on the NJIAC.

She said regarding the Forest Stewardship Task Force, she had the opportunity to meet with Senator Jean Stanfield yesterday. She said she is interested in learning more about the Pinelands. She said Senator Stanfield is also supportive of the green amendments. She mentioned that Senator Stanfield is a member of the Senate Climate and Energy Committee. Ms. Rittler Sanchez suggested that Senator Stanfield may be a good contact regarding joining the Task Force.

Ms. Rittler Sanchez expressed concern that the NWLS only mentions protections for saltwater species, and not for freshwater.

She also asked how much stormwater runoff will be captured in the rain garden and if anything needs to be done for Fenwick Manor or the parking lot for future impacts.

Chairman Lohbauer commented that he didn't notice that the NWLS only addressed saltwater species. Ms. Grogan indicated there are specific sections on wetlands and aquaculture separate from the coastal goals. She said the freshwater goals may be grouped with the agricultural section of the document.

In response to Ms. Rittler Sanchez's question, Mr. Horner said when the RJS Building and parking area was constructed, a stormwater management basin was put in place to meet CMP standards. He said that while staff have not seen the final rain garden design, it will likely treat a small percentage of runoff. He said that it could be reviewed to see if another rain garden may be sited.

Ms. Grogan said that when Rutgers came to the property to inspect, they did identify options for additional rain gardens. She said one suggestion was to build a rain garden adjacent to Fenwick Manor. She said there were issues with large trees in between the buildings. She said it would be

something to look to in the future. She said the best approach was to tie in the rain garden with the newer building and existing stormwater basin.

Ms. Grogan mentioned that another meeting of the Climate Committee is scheduled for March 25, 2022. She said that suggestions can be made to herself or Chairman Lohbauer to be added to that agenda for discussion.

Chairman Lohbauer commented that he likes having the meetings monthly. He said that having the meeting after the P&I meeting has been successful.

Commissioner Irick complimented Ms. Grogan on her work managing all the challenges that have been brought to the Commission. Ms. Grogan replied with thanks and recognized the staff for their contribution. She said it was a group effort.

Chairman Lohbauer closed public comment at 11:50 p.m.

There being no further discussion, Commissioner Higginbotham moved the closing of the meeting. Commissioner Lloyd seconded the motion. The meeting concluded at 11:52 a.m.

Certified as true and correct

Dawn Holgersen
Office Assistant
March 15, 2022

New Jersey Interagency Council on Climate Resilience

A brief overview
presented to the Pinelands Commission
Climate Committee

February 25, 2022

Photo by John Bunnell

1

- Interagency Council on Climate Resilience created through Executive Order No. 89
- Established to develop short- and long-term action plan to promote the long-term mitigation, adaptation and resilience of NJ's economy, communities, infrastructure and natural resources.
- The Council will support the development and implementation of the State's Climate Change Resilience Strategy

2

IAC Member Agencies

Department of Agriculture
Department of Banking and Insurance
Department of Environmental Protection
Department of Health
Department of Human Services
Department of Law and Public Safety
Department of Military & Veterans Affairs
Department of State
Department of Transportation
Department of the Treasury
Board of Public Utilities

Housing and Mortgage Finance Agency
Economic Development Authority
New Jersey Infrastructure Bank
New Jersey Transit
New Jersey Turnpike Authority
New Jersey Sports and Exposition Authority
New Jersey Office of Emergency Management
New Jersey Highlands Council
Pinelands Commission
Port Authority of New York and New Jersey

3



The IAC is Chaired by Jane Cohen, Ex. Director of the Office of Climate Action and the Green Economy

Its former Vice-Chair was NJ's first Chief Resilience Officer, Dave Rosenblatt, who retired at the end of 2021

Since January 2022, Nick Angarone of NJDEP's Coastal Management Program is the state's new Chief Resilience Officer

The IAC held its first meeting in December 2019 and the participating agency liaison's have been meeting monthly since August 2021.

The Pinelands Commission was invited to join the IAC in October 2021.

Acting Executive Director Grogan serves as the Commission's Principal Member and Ed Wengrowski serves as the Commission's Primary Liaison to the Council

4

IAC Actions

Issued the New Jersey Climate Change Resilience Strategy in October 2021, with 6 identified priorities

- Build Resilient and Healthy Communities
- Strengthen the Resilience of NJ's Ecosystems
- Promote Coordinated Governance
- Invest in Information and Increase Public Understanding
- Promote Climate-Informed Investments and Innovative Financing
- Coastal Resilience Plan


www.nrs.fs.fed.us/disturbance/fire/regional_models/

Development of an Operating Principals document

- Establishes the IAC Governance Structure
- Primary Liaison member expectations
- Meeting structure for Cabinet-level meetings, Primary Liaison (Senior Staff) meetings, Working Group meetings and Steering Committee meetings

Working on a Council Workplan Document

5

What's next for the Pinelands Commission:

- Develop an Action Plan for implementation by the Pinelands Commission that addresses the EO 89 agency directives
- Periodically update the IAC on Commission actions in furtherance of meeting the objectives of EO 89.


Photo by Paul Leakan

6

Natural and Working Lands Strategy: NJDEP and Dept. of Agriculture

February 2022

1

Process

- Scoping Document released – December 2021
- Targeted Stakeholder Sessions – Spring/Summer 2022
- Final NWLS Strategy released – TBD 2022

2

Recommended Strategies

- Forests
- Agricultural Lands and Aquaculture
- Grasslands
- Wetlands
- Developed Lands
- Aquatic Resources and Habitats

3

Forestry

- Preserve forested areas so as to avoid conversion
- Forest restoration
- Proforestation
- Wildfire tracking system and prescribed burns
- Active forest management BMPs
- Continue forest stewardship program for private landowners

4

Agricultural Lands and Aquaculture

- Incentivize climate-friendly agricultural practices
- Create landowner assistance programs
- Reduce tillage practices and disturbances to limit carbon loss
- Plant carbon-sequestering cover cops
- Encourage "precision agriculture" – minimize inputs
- Adopt aquacultural practices that consider ocean acidification
- Expand technical assistance and cost-share assistance to encourage conservation practices on farms

5

Grasslands

- Preserve grasslands so as to avoid conversion
- Encourage creation of grasslands
- Minimize soil disturbance in pastures to reduce carbon loss
- Restore degraded grasslands by increasing plant diversity and planting productive species
- Increase production of forage (for livestock) through irrigation, introduction of earthworms, etc.

6

Wetlands

- Create, enhance and restore tide marshes and Atlantic white cedar wetlands
- Protect and rebuild salt marsh edge with living shorelines
- Remove tidal restrictions to increase saltwater flow into wetlands
- Preserve upland areas that are expected to become salt marshes as sea levels rise
- Preserve tidal marshes so as to avoid conversion
- Develop blue carbon BMPs

7

Developed Lands

- Prioritize funding for good forest strategies in urban forests
- Promote urban greening and reduction of impervious surfaces
- Expand Urban & Community Forestry Program (encourage and protect planting)
- Target preservation of forested and grassland areas in urban and developed areas
- Encourage green infrastructure (stormwater BMPs)

8

Aquatic Resources & Habitats

- Restore and protect seagrass habitat
- Extend Marine Conservation Zone to seagrass beds
- Develop ocean acidification plan to address impacts to fisheries, aquaculture and ocean resilience.

NJ Pinelands Commission
Climate Committee review of the TRC Energy Audit Reports

TO: Susan Grogan, Acting Executive Director
NJ Pinelands Commission

FROM: Mark Lohbauer, Chairman of the Pinelands Climate Committee

RE: Review of the Local Government Review Energy Audit by the Climate Committee At its meeting of May 27, 2022

DATE: May 18, 2022

On March 21, 2022, TRC, private energy analysts working for the NJ BPU Clean Energy Program, delivered two reports to the NJ Pinelands Commission: one on the Richard J. Sullivan Center, and the other on the Fenwick Manor, Carriage House, and Barn buildings at our complex. The reports summarized the energy audits that TRC performed at our complex. They evaluated current energy use, and recommended energy-saving measures for the Commission to undertake. The goal of the study was "… to identify potential energy efficiency opportunities and help prioritize specific measures for implementation." A further purpose of the Energy Audit was to help the Pinelands Commission reduce costs through these energy savings.

While these are laudable goals that are consistent with Commission policy, they are not specifically reflective of the goal of the Climate Committee, which is to "… review the potential effects of climate change in the Pinelands and consider measures to mitigate impacts." Mitigation of the climate crisis requires reduction of the production of greenhouse gases, particularly CO2 emissions and methane releases which are the by-products of fossil fuel combustion. As energy use is at the core of the Climate Committee's interests regarding the operations of the Pinelands Commission, it is appropriate that the Committee should review the reports which will inform the Commission's policy on energy use.

There are two steps that that Climate Committee should undertake in its review of theses Energy Audit reports:

1. Evaluate the conclusions of the Sullivan Center report and Fenwick Manor report to determine their consistency with climate change mitigation goals.
2. Determine whether other climate mitigation-oriented policies related to the Commission's use of energy might also be recommended in addition to the report recommendations.

Note: while the reports do address cost savings and costs of installation of energy-saving features, those points need not be addressed by the Climate Committee but should instead be reserved for the Personnel and Budget Committee to consider.

Here is a summary of the conclusions of each report, with conclusions that should be discussed in detail by the Committee highlighted **in bold type**. These are followed by a section on climate mitigation-oriented energy use policies to consider.

A. SULLIVAN CENTER REPORT

1. Energy conservation measures (detailed in Appendix A-1):
    a. Install LED fixtures
    b. Retrofit fixtures with LED lamps
    c. Install occupancy sensor lighting controls.
    d. Install high/low lighting controls.
    e. Install high efficiency air conditioning units

    "*We evaluated replacing standard efficiency packaged air conditioning units with high efficiency packaged air conditioning units. The magnitude of energy savings for this measure depends on the relative efficiency of the older unit versus the new high efficiency unit, the average cooling and heating load, and the estimated annual operating hours.*

    Affected Units: *exterior split-systems and the server room mini-split AC unit. "*

    f. Install high efficiency heat pumps

    "*We evaluated replacing standard efficiency heat pumps with high efficiency heat pumps. A higher EER or SEER rating indicates a more efficient cooling system, and a higher HSPF rating indicates more efficient heating mode. The magnitude of energy savings for this measure depends on the relative efficiency of the older unit versus the new high efficiency unit, the average heating and cooling loads, and the estimated annual operating hours.*

    Affected Units: *mini-split HP unit in storage room 013."*

    g. Install pipe insulation
    h. Install low-flow DHW devices
2. Energy efficient best practices:
    a. Energy tracking with ENERGY STAR Portfolio Manager
    b. Weatherization
    c. Doors and windows
    d. Lighting maintenance
    e. Lighting controls
    f. Motor maintenance
    g. Fans to reduce cooling load
    h. AC system evaporator/condenser coil cleaning
    i. HVAC filter cleaning and replacement
    j. Ductwork maintenance
    k. Furnace maintenance
    l. Label HVAC equipment
    m. Optimize HVAC equipment schedules

n. Water heater maintenance
o. Water conservation
p. Procurement strategies

3. **On-site generation**
    a. **Solar photovoltaic:**

"A preliminary screening was conducted based on the facility's electric demand, size and location of free area, and shading elements. A solar PV array was evaluated for the facility's parking lot to avoid disrupting the historic buildings. However, due to the facility's low electric demand along with the amount of shading in the area, the preliminary screening shows that the facility has no potential for installing a PV array.

This facility does not appear to meet the minimum criteria for a cost-effective solar PV installation. To be cost-effective, a solar PV array needs certain minimum criteria, such as sufficient and sustained electric demand and sufficient flat or south-facing rooftop or other unshaded space on which to place the PV panels."

b. Combined heat and power

"Combined heat and power (CHP) generates electricity at the facility and puts waste heat energy to good use. Common types of CHP systems are reciprocating engines, microturbines, fuel cells, backpressure steam turbines, and (at large facilities) gas turbines. …

A preliminary screening based on heating and electrical demand, siting, and interconnection shows that the facility has no potential for installing a cost-effective CHP system.

Based on a preliminary analysis, the facility does not appear to meet the minimum requirements for a cost-effective CHP installation. The lack of gas service, low or infrequent thermal load, and lack of space for siting the equipment are the most significant factors contributing to the lack of CHP potential."

4. Project funding and incentives
    a. Utility energy efficiency programs
5. NJ Clean Energy Programs
    a. Large energy users
    b. Combined heat and power
    c. Successor solar incentive program
    d. Energy savings improvement program
6. Project development
7. **Energy purchasing and procurement strategies**

a. Retail electric supply options

"*Energy deregulation in New Jersey has increased energy buyers' options by separating the function of electricity distribution from that of electricity supply. Though you may choose a different company from which to buy your electric power, responsibility for your facility's interconnection to the grid and repair to local power distribution will still reside with the traditional utility company serving your region.*

If your facility is not purchasing electricity from a third-party supplier, consider shopping for a reduced rate from third-party electric suppliers. If your facility already buys electricity from a third-party supplier, review and compare prices at the end of each contract year."

b. Retail natural gas supply options

"*The natural gas market in New Jersey is also deregulated. Most customers that remain with the utility for natural gas service pay rates that are market based and fluctuate monthly. The utility provides basic gas supply service to customers who choose not to buy from a third-party supplier for natural gas commodity.*

A customer's decision about whether to buy natural gas from a retail supplier typically depends on whether a customer prefers budget certainty and/or longer-term rate stability. Customers can secure longer-term fixed prices by signing up for service through a third-party retail natural gas supplier. Many larger natural gas customers may seek the assistance of a professional consultant to assist in their procurement process."

B. FENWICK MANOR & OUT-BUILDINGS *(Only showing conclusions that were distinct from the Sullivan Building report)*

Energy conservation measures

4. Install high efficiency air conditioning units. (Unitary)

"*Replacing the unitary HVAC units has a long payback period and may not be justifiable based simply on energy considerations. However, most of the units are nearing or have reached the end of their normal useful life. Typically, the marginal cost of purchasing a high efficiency unit can be justified by the marginal savings from the improved efficiency. When the split-systems are eventually replaced, consider purchasing equipment that exceeds the minimum efficiency required by building codes."*

ENERGY ISSUES NOT ADDRESSED OR SUPPORTED IN THE REPORTS THAT SHOULD BE CONSIDERED BY THE COMMITTEE

1. Creation of on-site renewable power generation system.

2. Installation of an on-site power storage system to allow the campus to store power for times when generation is inadequate to supply demand. The system should be sized to enable the campus to be self-sufficient, as well as functional during grid power outages.
3. Conversion of separate space heating and air conditioning systems to a single electric heat-pump system to eliminate fossil fuel use. Our current heating system, described by TRC: *"The building heating system consists of seven gas-fired Ruud forced air furnaces, each with an output capacity of 55.8 MBh and an efficiency rating of 92%. Each unit is equipped with a fractional hp supply fan. Original to the building, the units are beyond their typical useful lifespan but were not recommended for replacement as they were observed to be in good condition, well maintained, and relatively efficient. Equipment is controlled by wall-mounted thermostats located throughout the building.*
4. Conversion of water heater to an electric system to eliminate fossil fuel use. Our current 48-gallon water heater was described by TRC: *"Hot water is produced by a 65 MBh gas-fired storage water heater with a 48-gallon capacity. Original to the building, the unit is in good condition. The domestic hot water pipes are partially insulated and the insulation is in good condition."*
5. Installation of an electric vehicle charging station to serve the public and Commission vehicles.
6. Replacement of existing fleet of vehicles with electric vehicles to eliminate fossil fuel use.

CHAPTER 169

AN ACT concerning certain solar energy projects, amending and supplementing P.L.1999, c.23, amending P.L.2016, c.12, and supplementing Title 13 of the Revised Statutes.

BE IT ENACTED *by the Senate and General Assembly of the State of New Jersey:*

C.48:3-114 Findings, declarations relative to certain solar energy projects.

1. The Legislature hereby finds and declares that:

a. In order to achieve the State's goal of securing 50 percent of its electricity supply from renewable energy by 2030 with the least cost and the greatest benefit to consumers, it is critical to promote investment in new solar electric power generation facilities, including grid supply solar facilities, community solar facilities, and net metered solar facilities;

b. The New Jersey 2019 Energy Master Plan, prepared pursuant to section 12 of P.L.1977, c.146 (C.52:27F-14), found that: (1) the State can achieve its 100 percent clean energy and 80 percent greenhouse gas reduction goals, which will likely lead to net savings when health benefits and climate change mitigation benefits are taken into account, in part by maximizing the development of renewable energy generation, including 17 gigawatts of solar power by 2035 and 32 gigawatts by 2050; and (2) under the least cost path identified by the plan, solar energy could meet 34 percent of the State's clean energy needs by 2050;

c. The development of grid supply solar should be directed toward marginal land and the built environment and away from open space, flood zones, and other areas especially vulnerable to climate change, and a coordinated land use policy for grid supply solar siting is needed to affordably expand New Jersey's commitment to renewable energy while not compromising the State's commitment to preserving and protecting open space and farmland;

d. New Jersey has the market potential to host thousands of megawatts of solar power generation facilities from grid supply, community solar, and net-metered solar installations, which will create solar jobs and improve the environment; and

e. It is therefore in the public interest to develop a new solar program that incentivizes new solar electric power generation facilities, including net metered solar facilities, community solar facilities, and grid supply solar facilities, which are capable of ensuring that clean and reliable solar energy is supplied to New Jersey consumers, and which contribute to meeting the State's energy goals.

C.48:3-115 SREC-II program.

2. a. There is established in the Board of Public Utilities a program to be known as the SREC-II program, which shall serve as the successor program to the SREC

program established pursuant to section 38 of P.L.1999, c.23 (C.48:3-87). The goal of the program shall be to provide incentives for the development of at least 3,750 megawatts of new solar power generation by 2026, although this goal may be extended or revised by the board as necessary to conform to the State's solar energy policies.

b. The board shall develop, as part of the SREC-II program, a process for the creation and distribution of renewable energy certificates, to be known as "SREC-IIs," for each megawatt hour of energy produced by a qualifying solar electric power generation facility for a duration established by the board. The board shall also establish a system by which to distribute a renewable energy incentive payment, to be known as the "SREC-II value per megawatt-hour," to the owner of an eligible solar electric power generation facility, which shall be measured in dollars-per-megawatt-hour of solar power generation, and which shall represent the value of the environmental attribute produced by the solar electric power generation facility. SREC-IIs shall be transferable and capable of being used by an electric power supplier or basic generation service provider to satisfy the State's renewable portfolio standards established pursuant to section 38 of P.L.1999, c.23 (C.48:3-87). SREC-IIs shall be eligible for use in renewable energy portfolio standards compliance in the energy year in which they are generated, and for the following energy year.

c. No later than one year after the effective date of P.L.2021, c.169 (C.48:3-114 et al.), the board shall adopt, pursuant to the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.), rules and regulations establishing the SREC-II program in accordance with the provisions of P.L.2021, c.169 (C.48:3-114 et al.).

d. The board is authorized to establish, impose, and collect fees, escrows, and other charges the board deems necessary and proper to implement the provisions of P.L.2021, c.169 (C.48:3-114 et al.).

e. The costs of the SREC-II program shall be apportioned to ratepayers using a methodology approved by the board. Except as provided in subsection h. of section 4 of P.L.2021, c.169 (C.48:3-117), the methodology shall be similar to that by which the board apportions the costs of SRECs and other renewable energy certificates pursuant to section 38 of P.L.1999, c.23 (C.48:3-87) and consistent with the competitive retail market established by the "Energy Discount and Energy Competition Act," P.L.1999, c.23 (C.48:3-49 et al.).

C.48:3-116 Development of small solar facilities incentive program.

3. a. The board shall develop, as part of the SREC-II program, a small solar facilities incentive program to award SREC-IIs to the owners of community solar facilities and net metered solar facilities less than five megawatts in size, as measured in direct current, or another size specified by the board. The small solar facilities incentive program shall aim to provide SREC-IIs for the generation of at

least 300 megawatts of net-metered solar facilities per year and 150 megawatts of community solar facilities per year, for each of the five years after the establishment of the SREC-II program.

b. The board shall establish eligibility criteria and an application process by which an owner of a solar electric power generation facility may apply to receive SREC-IIs pursuant to this section, until the program reaches the energy generation target established by subsection a. of this section, as determined by the board. Only solar electric power generation facilities that receive permission to operate from the appropriate regional grid operator after the effective date of P.L.2021, c.169 (C.48:3-114 et al.), shall be eligible to receive SREC-IIs pursuant to this section, unless otherwise specified by the board. A facility shall be eligible to receive SREC-IIs pursuant to this section for a duration established by the board if it is connected to the distribution or transmission system owned or operated by a New Jersey public utility or local government unit.

c. The small solar facilities incentive program shall include criteria by which to assign an SREC-II value per megawatt-hour to a solar electric power generation facility. The criteria shall be designed by the board to incentivize the development of new solar power projects sufficiently so that the goals for solar power development in the State's Energy Master Plan are met, to further other State goals, and to incentivize projects that are especially in the public interest. The SREC-II value per megawatt-hour may include the value of the environmental and other benefits to the State provided by the facility, as determined by the board. The criteria may include, but is not limited to, consideration of the following factors:

(1) the size of the facility;

(2) the costs and revenues associated with representative facilities;

(3) for community solar facilities, the economic and demographic characteristics of the area served by the facility, including whether it is located in an overburdened community, as that term is defined in section 2 of P.L.2020, c.92 (C.13:1D-158);

(4) whether the facility is located on already developed land or the built environment;

(5) the facility's eligibility for net metering pursuant to subsection e. of section 38 of P.L.1999, c.23 (C.48:3-87) or participation in the community solar program established pursuant to subsection f. of section 5 of P.L.2018, c.17 (C.48:3-87.11); and

(6) the rate class of the facility, as determined by the appropriate New Jersey electric public utility or local government unit.

C.48:3-117 Solicitation process for awarding contracts.

4. a. The board shall develop and administer, as part of the SREC-II program, a transparent, fair, and competitive solicitation process for awarding SREC-II contracts to promote the construction of solar electric power generation facilities.

(1) In order to be eligible to participate in the solicitation process, a solar electric power generation facility shall be:

(a) a grid supply solar facility or net metered solar facility greater than five megawatts in size, as measured in direct current, or another size specified by the board;

(b) constructed after the effective date of P.L.2021, c.169 (C.48:3-114 et al.);

(c) interconnected to a distribution or transmission system operated by a New Jersey electric public utility or local government unit; and

(d) sited in conformance with the siting criteria established by the board pursuant to section 6 of P.L.2021, c.169 (C.48:3-119).

(2) The board shall develop additional eligibility criteria and application processes for participation in the solicitation process.

b. The board may establish a system of distinct bidding categories within the competitive solicitation process set forth in this section, such that only bids from the same category compete with one another. The category system may take into account the size of the facility, location of the facility on a contaminated site or landfill, as determined by the board in consultation with the Department of Environmental Protection, or any other feature of a facility, provided that the category system enhances the continued diversification of the energy resources used to meet consumer demand in this State and results in environmental and public health benefits to New Jersey residents, as determined by the board. The board may revise the category system as it deems appropriate after each solicitation round.

c. Solicitation rounds shall occur at least as frequently as once every 18 months, beginning on the effective date of P.L.2021, c.169 (C.48:3-114 et al.) and ending no earlier than January 1, 2026. The solicitation process shall:

(1) be open on a non-discriminatory basis to any entity seeking to construct a solar electric power generation facility that complies with the provisions of subsection a. of this section;

(2) be carried out in accordance with criteria developed by the board and applied equally to all responses to the solicitation;

(3) award contracts for SREC-IIs to promote the construction of solar electric power generation facilities for no less than an average of 300 megawatts per year, for five years, with the first awards made no later than 18 months after the effective date of P.L.2021, c.169 (C.48:3-114 et al.);

(4) award projects selected as part of the competitive solicitation process the right to receive a renewable energy incentive payment, in the form of an SREC-II value per megawatt-hour established by the board, for the environmental attribute produced by the solar electric power generation facility, for a duration to be established by the board. The SREC-II value per megawatt-hour may include the value of the environmental and other benefits to the State provided by the facility, as determined by the board;

(5) ensure that the length of any award is sufficient to encourage low financing rates, reasonable risks to ratepayers, and to enable the development of affordable renewable energy resources;

(6) mitigate price and delivery risks for consumers;

(7) include requirements designed to ensure successful completion of projects, including, but not limited to, the imposition of appropriate escrow fees, bid maturity requirements, required interconnection milestones, and conditions on when a project must achieve commercial operation; and

(8) ensure that the environmental and public health benefits of solar electric power generation facilities on contaminated sites or landfills are recognized, including accommodating the long development timescale for these projects.

d. The board may establish confidential high and low bid thresholds prior to conducting a competitive solicitation pursuant to this section, provided that the thresholds promote fiscal responsibility for the State and the likelihood of successful bids, as determined by the board. The thresholds may include a cap on the renewable energy incentive payments required pursuant to paragraph (4) of subsection c. of this section. The board may also procure more than the minimum quantity of solar power required by this section if bids are below the predetermined bid threshold.

e. The board shall determine, in consultation with the Department of Environmental Protection, if a solar electric power generation facility may be sited on a contaminated site or landfill for the purposes of this section. If the board authorizes a facility to be sited on a contaminated site or landfill, the facility shall be afforded the protections provided in paragraph (2) of subsection t. of section 38 of P.L.1999, c.23 (C.48:3-87).

f. At the end of each bidding round, the board shall:

(1) rank all bids received based on the bid price, or, pursuant to subsection b. of this section, based on the bid price within each category;

(2) select bids in ranked order, up to the procurement budget set by the board, or, pursuant to subsection b. of this section, the procurement budget of each category; and

(3) adjust quantities awarded if prices are above or below any confidential pre-determined thresholds established pursuant to subsection d. of this section.

g. Any moneys placed in escrow by an applicant as part of the competitive solicitation process shall be reimbursed to the applicant in full or in part upon meeting the conditions set forth by the board when the board established the escrow requirement, including, but not limited to, selection in the competitive solicitation or commencement of commercial operation of the solar electric power generation facility. The escrow amount shall be forfeited to the General Fund if the facility does not meet the conditions set forth by the board when the board established the escrow requirement, including, but not limited to, commencing commercial operation within the term specified by the board's requirements established pursuant

to paragraph (7) of subsection c. of this section, including any extensions as may be granted pursuant to procedures established by the board.

h. The costs of the competitive solicitation process, including the issuance of renewable energy incentive payments pursuant to paragraph (4) of subsection c. of this section, shall not be subject to the Class I renewable energy requirement cost cap established by paragraph (2) of subsection d. of section 38 of P.L.1999, c.23 (C.48:3-87).

C.48:3-118 Requirements for solar electric power generation facilities receiving SREC-II grants.

5. a. No solar electric power generation facility shall simultaneously receive SREC-IIs pursuant to P.L.2021, c.169 (C.48:3-114 et al.) and Class I RECs, SRECs, or any other comparable certificates, including those issued under a program developed by the board pursuant to P.L.2018, c.17 (C.48:3-87.8 et al.).

b. A solar electric power generation facility that receives an SREC-II pursuant to P.L.2021, c.169 (C.48:3-114 et al.) for a unit of energy produced shall not otherwise sell, alienate, or dispose of any of the environmental benefits or attributes associated with that energy.

c. A solar electric power generation facility that is selected by the board pursuant to section 4 of P.L.2021, c.169 (C.48:3-117) shall be responsible for the payment of:

(1) an annual remuneration of one percent of the renewable energy incentive payments pursuant to paragraph (4) of subsection c. of section 4 of P.L.2021, c.169 (C.48:3-117), to be submitted to the State Treasurer for deposit into the "Preserve New Jersey Fund Account," established pursuant to section 4 of P.L.2016, c.12 (C.13:8C-46); and

(2) an annual administrative fee, in an amount to be determined by the board in the rules and regulations adopted by the board pursuant to section 2 of P.L.2021, c.169 (C.48:3-115).

d. Each worker employed in the State during the construction of a solar electric power generation facility greater than one megawatt in size, as measured in direct current, that participates in the SREC-II program shall be paid not less than the prevailing wage rate for the worker's craft or trade, as determined by the Commissioner of Labor and Workforce Development pursuant to P.L.1963, c.150 (C.34:11-56.25 et seq.).

e. The issuance of SREC-IIs pursuant to P.L.2021, c.169 (C.48:3-114 et al.) shall be deemed "Board of Public Utilities financial assistance" as provided under section 1 of P.L.2009, c.89 (C.48:2-29.47).

f. The owner of a solar electric power generation facility that participates in the SREC-II program shall obtain all necessary permits and other approvals as may be required pursuant to federal, State, or local law, rule, regulation, or ordinance.

g. A solar electric power generation facility that is selected pursuant to section 4 of P.L.2021, c.169 (C.48:3-117) shall comply with the standards concerning vegetation adopted by the Department of Environmental Protection pursuant to section 8 of P.L.2021, c.169 (C.13:1B-15.178).

C.48:3-119 Siting criteria required to commence operation.

6. a. The board shall not authorize a grid supply solar facility or a net metered solar facility greater than five megawatts in size to commence operation, or to interconnect to an electric distribution or transmission system, unless it meets the siting criteria developed pursuant to this section.

b. The board shall develop, in consultation with the Department of Environmental Protection and the Secretary of Agriculture, siting criteria for grid supply solar facilities and net metered solar facilities greater than five megawatts in size. In addition to implementing the provisions of subsections c. through f. of this section, the siting criteria shall:

(1) facilitate the State's commitment to affordable, clean, and renewable energy, and the carbon dioxide emissions reduction goals established by P.L.2007, c.112 (C.26:2C-37 et al.);

(2) minimize, as much as is practicable, potential adverse environmental impacts; and

(3) where appropriate, include consideration of:

(a) existing and prior land uses of the property;

(b) whether the property contains a contaminated site or landfill;

(c) any conservation or agricultural designations associated with the property;

(d) the amount of soil disturbance, impervious surface, and tree cover on the property; and

(e) other site-specific criteria.

c. Unless authorized pursuant to subsection f. of this section, a grid supply solar facility or a net metered solar facility greater than five megawatts in size shall not be sited on:

(1) land preserved under the Green Acres Program;

(2) land located within the preservation area of the pinelands area, as designated in subsection b. of section 10 of P.L.1979, c.111 (C.13:18A-11);

(3) land designated as forest area in the pinelands comprehensive management plan adopted pursuant to P.L.1979, c.111 (C.13:18A-1 et seq.);

(4) land designated as freshwater wetlands as defined pursuant to P.L.1987, c.156 (C.13:9B-1 et seq.), or coastal wetlands as defined pursuant to P.L.1970, c.272 (C.13:9A-1 et seq.);

(5) lands located within the Highlands preservation area as designated in subsection b. of section 7 of P.L.2004, c.120 (C.13:20-7);

(6) forested lands, as defined by the board in consultation with the Department of Environmental Protection; or

(7) prime agricultural soils and soils of Statewide importance, as identified by the United States Department of Agriculture's Natural Resources Conservation Service, which are located in Agricultural Development Areas certified by the State Agriculture Development Committee, in excess of the Statewide threshold of 2.5 percent of such soils established by paragraph (1) of subsection d. of this section.

d. (1) A grid supply solar facility or a net metered solar facility greater than five megawatts in size sited on prime agricultural soils or soils of Statewide importance, as identified by the United States Department of Agriculture's Natural Resources Conservation Service, which are located in Agricultural Development Areas certified by the State Agriculture Development Committee, shall not require a waiver pursuant to subsection f. of this section until the board determines, pursuant to paragraph (2) of this subsection, that 2.5 percent of such lands in the State have been approved by the board pursuant to P.L.2021, c.169 (C.48:3-114 et al.) to be utilized by a grid supply solar facility or a net metered solar facility greater than five megawatts in size. After the board makes this determination, a grid supply solar facility or a net metered solar facility greater than five megawatts in size shall not be sited on prime agricultural soils or soils of Statewide importance, as identified by the United States Department of Agriculture's Natural Resources Conservation Service, which are located in Agricultural Development Areas certified by the State Agriculture Development Committee, unless authorized pursuant to subsection f. of this section.

(2) The board, in consultation with the Secretary of Agriculture, shall track and record the Statewide area of prime agricultural soils or soils of Statewide importance, which are located in Agricultural Development Areas certified by the State Agriculture Development Committee, and which are utilized for solar energy production by grid supply solar facilities and net metered solar facilities greater than five megawatts in size, in order to implement the provisions of this section.

e. (1) In no case shall a grid supply solar facility be located on preserved farmland.

(2) Nothing in P.L.2021, c.169 (C.48:3-114 et al.) shall be construed to affect the provisions of P.L.2009, c.213 (C.4:1C-32.4 et al.), including those related to the construction of solar electric power generation facilities on preserved farmland.

f. A developer may petition the board for a waiver to site a solar power electric generation facility in an area proscribed by subsection c. of this section. The petition shall set out the unique factors that make the project consistent with the character of the specific parcel, including whether the property is a contaminated site or landfill, otherwise marginal land, or whether the project utilizes existing development or existing areas of impervious coverage. The board shall, in consultation with the Department of Environmental Protection or Secretary of Agriculture, as appropriate,

consider the petition and may grant a waiver to a project deemed to be in the public interest. However, in no case shall the projects approved by the board pursuant to this section occupy more than five percent of the unpreserved land containing prime agricultural soils and soils of Statewide importance, as identified by the United States Department of Agriculture's Natural Resources Conservation Service, located within any county's designated Agricultural Development Area, as determined by the State Agriculture Development Committee.

g. No later than five years after the adoption of rules and regulations pursuant to section 2 of P.L.2021, c.169 (C.48:3-115), the board, in consultation with the Department of Environmental Protection and the Secretary of Agriculture, shall conduct a review of the rules and regulations to assess program performance, identify problems, and recommend changes to the siting criteria to better effectuate the policy goals set forth in subsection a. of this section. The board shall prepare a report summarizing this review and submit it to the Governor and to the Legislature pursuant to section 2 of P.L.1991, c.164 (C.52:14-19.1).

C.48:3-120 Report to Governor, Legislature.

7. The board shall submit a report on the SREC-II program to the Governor and, pursuant to section 2 of P.L.1991, c.164 (C.52:14-19.1), to the Legislature no later than 12 months after the adoption of rules and regulations pursuant to section 2 of P.L.2021, c.169 (C.48:3-115), and annually thereafter. The report shall include, but not be limited to:

a. information about the number and price of SREC-IIs distributed;

b. information about the progress of the program towards meeting its solar energy generation goals, including the individual goals for net-metered solar facilities, community solar facilities, and grid supply solar facilities;

c. an assessment of the competitive solicitation process, including any recommendations to improve the functioning of the program; and

d. a summary of the siting criteria developed pursuant to section 6 of P.L.2021, c.169 (C.48:3-119), including any recommendations to improve the criteria.

C.13:1B-15.178 Standards for use of pollinator-friendly native plant species in grid supply solar facilities.

8. No later than one year after the effective date of P.L.2021, c.169 (C.48:3-114 et al.), the Department of Environmental Protection, in consultation with the board, shall establish standards for the use of pollinator-friendly native plant species and seed mixes in grid supply solar facilities, which are designed to reduce stormwater runoff and erosion, and provide native perennial vegetation and foraging habitat beneficial to gamebirds, songbirds, and pollinators, and which consider compatibility with the security and reliability of grid supply solar facilities.

9. Section 3 of P.L.1999, c.23 (C.48:3-51) is amended to read as follows:

C.48:3-51 Definitions relative to competition in certain industries.

3. As used in P.L.1999, c.23 (C.48:3-49 et al.):

"Assignee" means a person to which an electric public utility or another assignee assigns, sells, or transfers, other than as security, all or a portion of its right to or interest in bondable transition property. Except as specifically provided in P.L.1999, c.23 (C.48:3-49 et al.), an assignee shall not be subject to the public utility requirements of Title 48 or any rules or regulations adopted pursuant thereto.

"Base load electric power generation facility" means an electric power generation facility intended to be operated at a greater than 50 percent capacity factor including, but not limited to, a combined cycle power facility and a combined heat and power facility.

"Base residual auction" means the auction conducted by PJM, as part of PJM's reliability pricing model, three years prior to the start of the delivery year to secure electrical capacity as necessary to satisfy the capacity requirements for that delivery year.

"Basic gas supply service" means gas supply service that is provided to any customer that has not chosen an alternative gas supplier, whether or not the customer has received offers as to competitive supply options, including, but not limited to, any customer that cannot obtain such service for any reason, including non-payment for services. Basic gas supply service is not a competitive service and shall be fully regulated by the board.

"Basic generation service" or "BGS" means electric generation service that is provided, to any customer that has not chosen an alternative electric power supplier, whether or not the customer has received offers for competitive supply options, including, but not limited to, any customer that cannot obtain such service from an electric power supplier for any reason, including non-payment for services. Basic generation service is not a competitive service and shall be fully regulated by the board.

"Basic generation service provider" or "provider" means a provider of basic generation service.

"Basic generation service transition costs" means the amount by which the payments by an electric public utility for the procurement of power for basic generation service and related ancillary and administrative costs exceeds the net revenues from the basic generation service charge established by the board pursuant to section 9 of P.L.1999, c.23 (C.48:3-57) during the transition period, together with interest on the balance at the board-approved rate, that is reflected in a deferred balance account approved by the board in an order addressing the electric public utility's unbundled rates, stranded costs, and restructuring filings pursuant to P.L.1999, c.23 (C.48:3-49 et al.). Basic generation service transition costs shall

include, but are not limited to, costs of purchases from the spot market, bilateral contracts, contracts with non-utility generators, parting contracts with the purchaser of the electric public utility's divested generation assets, short-term advance purchases, and financial instruments such as hedging, forward contracts, and options. Basic generation service transition costs shall also include the payments by an electric public utility pursuant to a competitive procurement process for basic generation service supply during the transition period, and costs of any such process used to procure the basic generation service supply.

"Board" means the New Jersey Board of Public Utilities or any successor agency.

"Bondable stranded costs" means any stranded costs or basic generation service transition costs of an electric public utility approved by the board for recovery pursuant to the provisions of P.L.1999, c.23 (C.48:3-49 et al.), together with, as approved by the board: (1) the cost of retiring existing debt or equity capital of the electric public utility, including accrued interest, premium and other fees, costs, and charges relating thereto, with the proceeds of the financing of bondable transition property; (2) if requested by an electric public utility in its application for a bondable stranded costs rate order, federal, State, and local tax liabilities associated with stranded costs recovery, basic generation service transition cost recovery, or the transfer or financing of the property, or both, including taxes, whose recovery period is modified by the effect of a stranded costs recovery order, a bondable stranded costs rate order, or both; and (3) the costs incurred to issue, service, or refinance transition bonds, including interest, acquisition, or redemption premium, and other financing costs, whether paid upon issuance or over the life of the transition bonds, including, but not limited to, credit enhancements, service charges, overcollateralization, interest rate cap, swap or collar, yield maintenance, maturity guarantee or other hedging agreements, equity investments, operating costs, and other related fees, costs, and charges, or to assign, sell, or otherwise transfer bondable transition property.

"Bondable stranded costs rate order" means one or more irrevocable written orders issued by the board pursuant to P.L.1999, c.23 (C.48:3-49 et al.) which determines the amount of bondable stranded costs and the initial amount of transition bond charges authorized to be imposed to recover the bondable stranded costs, including the costs to be financed from the proceeds of the transition bonds, as well as on-going costs associated with servicing and credit enhancing the transition bonds, and provides the electric public utility specific authority to issue or cause to be issued, directly or indirectly, transition bonds through a financing entity and related matters as provided in P.L.1999, c.23 (C.48:3-49 et al.), which order shall become effective immediately upon the written consent of the related electric public utility to the order as provided in P.L.1999, c.23 (C.48:3-49 et al.).

"Bondable transition property" means the property consisting of the irrevocable right to charge, collect, and receive, and be paid from collections of, transition bond

charges in the amount necessary to provide for the full recovery of bondable stranded costs which are determined to be recoverable in a bondable stranded costs rate order, all rights of the related electric public utility under the bondable stranded costs rate order including, without limitation, all rights to obtain periodic adjustments of the related transition bond charges pursuant to subsection b. of section 15 of P.L.1999, c.23 (C.48:3-64), and all revenues, collections, payments, money, and proceeds arising under, or with respect to, all of the foregoing.

"British thermal unit" or "Btu" means the amount of heat required to increase the temperature of one pound of water by one degree Fahrenheit.

"Broker" means a duly licensed electric power supplier that assumes the contractual and legal responsibility for the sale of electric generation service, transmission, or other services to end-use retail customers, but does not take title to any of the power sold, or a duly licensed gas supplier that assumes the contractual and legal obligation to provide gas supply service to end-use retail customers, but does not take title to the gas.

"Brownfield" means any former or current commercial or industrial site that is currently vacant or underutilized and on which there has been, or there is suspected to have been, a discharge of a contaminant.

"Buydown" means an arrangement or arrangements involving the buyer and seller in a given power purchase contract and, in some cases third parties, for consideration to be given by the buyer in order to effectuate a reduction in the pricing, or the restructuring of other terms to reduce the overall cost of the power contract, for the remaining succeeding period of the purchased power arrangement or arrangements.

"Buyout" means an arrangement or arrangements involving the buyer and seller in a given power purchase contract and, in some cases third parties, for consideration to be given by the buyer in order to effectuate a termination of such power purchase contract.

"Class I renewable energy" means electric energy produced from solar technologies, photovoltaic technologies, wind energy, fuel cells, geothermal technologies, wave or tidal action, small scale hydropower facilities with a capacity of three megawatts or less and put into service after the effective date of P.L.2012, c.24, methane gas from landfills, methane gas from a biomass facility provided that the biomass is cultivated and harvested in a sustainable manner, or methane gas from a composting or anaerobic or aerobic digestion facility that converts food waste or other organic waste to energy.

"Class II renewable energy" means electric energy produced at a hydropower facility with a capacity of greater than three megawatts, but less than 30 megawatts, or a resource recovery facility, provided that the facility is located where retail competition is permitted and provided further that the Commissioner of Environmental Protection has determined that the facility meets the highest environmental standards and minimizes any impacts to the environment and local

communities. Class II renewable energy shall not include electric energy produced at a hydropower facility with a capacity of greater than 30 megawatts on or after the effective date of P.L.2015, c.51.

"Co-generation" means the sequential production of electricity and steam or other forms of useful energy used for industrial or commercial heating and cooling purposes.

"Combined cycle power facility" means a generation facility that combines two or more thermodynamic cycles, by producing electric power via the combustion of fuel and then routing the resulting waste heat by-product to a conventional boiler or to a heat recovery steam generator for use by a steam turbine to produce electric power, thereby increasing the overall efficiency of the generating facility.

"Combined heat and power facility" or "co-generation facility" means a generation facility which produces electric energy and steam or other forms of useful energy such as heat, which are used for industrial or commercial heating or cooling purposes. A combined heat and power facility or co-generation facility shall not be considered a public utility.

"Competitive service" means any service offered by an electric public utility or a gas public utility that the board determines to be competitive pursuant to section 8 or section 10 of P.L.1999, c.23 (C.48:3-56 or C.48:3-58) or that is not regulated by the board.

"Commercial and industrial energy pricing class customer" or "CIEP class customer" means that group of non-residential customers with high peak demand, as determined by periodic board order, which either is eligible or which would be eligible, as determined by periodic board order, to receive funds from the Retail Margin Fund established pursuant to section 9 of P.L.1999, c.23 (C.48:3-57) and for which basic generation service is hourly-priced.

"Comprehensive resource analysis" means an analysis including, but not limited to, an assessment of existing market barriers to the implementation of energy efficiency and renewable technologies that are not or cannot be delivered to customers through a competitive marketplace.

"Community solar facility" means a solar electric power generation facility participating in the Community Solar Energy Pilot Program or the Community Solar Energy Program developed by the board pursuant to section 5 of P.L.2018, c.17 (C.48:3-87.11).

"Connected to the distribution system" means, for a solar electric power generation facility, that the facility is: (1) connected to a net metering customer's side of a meter, regardless of the voltage at which that customer connects to the electric grid; (2) an on-site generation facility; (3) qualified for net metering aggregation as provided pursuant to paragraph (4) of subsection e. of section 38 of P.L.1999, c.23 (C.48:3-87); (4) owned or operated by an electric public utility and approved by the board pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1); (5)

directly connected to the electric grid at 69 kilovolts or less, regardless of how an electric public utility classifies that portion of its electric grid, and is designated as "connected to the distribution system" by the board pursuant to subsections q. through s. of section 38 of P.L.1999, c.23 (C.48:3-87); or (6) is certified by the board, in consultation with the Department of Environmental Protection, as being located on a brownfield, on an area of historic fill, or on a properly closed sanitary landfill facility. Any solar electric power generation facility, other than that of a net metering customer on the customer's side of the meter, connected above 69 kilovolts shall not be considered connected to the distribution system.

"Contaminated site or landfill" means: (1) any currently contaminated portion of a property on which industrial or commercial operations were conducted and a discharge occurred, and its associated disturbed areas, where "discharge" means the same as the term is defined in section 23 of P.L.1993, c.139 (C.58:10B-1); or (2) a properly closed sanitary landfill facility and its associated disturbed areas.

"Customer" means any person that is an end user and is connected to any part of the transmission and distribution system within an electric public utility's service territory or a gas public utility's service territory within this State.

"Customer account service" means metering, billing, or such other administrative activity associated with maintaining a customer account.

"Delivery year" or "DY" means the 12-month period from June 1st through May 31st, numbered according to the calendar year in which it ends.

"Demand side management" means the management of customer demand for energy service through the implementation of cost-effective energy efficiency technologies, including, but not limited to, installed conservation, load management, and energy efficiency measures on and in the residential, commercial, industrial, institutional, and governmental premises and facilities in this State.

"Electric generation service" means the provision of retail electric energy and capacity which is generated off-site from the location at which the consumption of such electric energy and capacity is metered for retail billing purposes, including agreements and arrangements related thereto.

"Electric power generator" means an entity that proposes to construct, own, lease, or operate, or currently owns, leases, or operates, an electric power production facility that will sell or does sell at least 90 percent of its output, either directly or through a marketer, to a customer or customers located at sites that are not on or contiguous to the site on which the facility will be located or is located. The designation of an entity as an electric power generator for the purposes of P.L.1999, c.23 (C.48:3-49 et al.) shall not, in and of itself, affect the entity's status as an exempt wholesale generator under the Public Utility Holding Company Act of 1935, 15 U.S.C. s.79 et seq., or its successor act.

"Electric power supplier" means a person or entity that is duly licensed pursuant to the provisions of P.L.1999, c.23 (C.48:3-49 et al.) to offer and to assume the

contractual and legal responsibility to provide electric generation service to retail customers, and includes load serving entities, marketers, and brokers that offer or provide electric generation service to retail customers. The term excludes an electric public utility that provides electric generation service only as a basic generation service pursuant to section 9 of P.L.1999, c.23 (C.48:3-57).

"Electric public utility" means a public utility, as that term is defined in R.S.48:2-13, that transmits and distributes electricity to end users within this State.

"Electric related service" means a service that is directly related to the consumption of electricity by an end user, including, but not limited to, the installation of demand side management measures at the end user's premises, the maintenance, repair, or replacement of appliances, lighting, motors, or other energy-consuming devices at the end user's premises, and the provision of energy consumption measurement and billing services.

"Electronic signature" means an electronic sound, symbol, or process, attached to, or logically associated with, a contract or other record, and executed or adopted by a person with the intent to sign the record.

"Eligible generator" means a developer of a base load or mid-merit electric power generation facility including, but not limited to, an on-site generation facility that qualifies as a capacity resource under PJM criteria and that commences construction after the effective date of P.L.2011, c.9 (C.48:3-98.2 et al.).

"Energy agent" means a person that is duly registered pursuant to the provisions of P.L.1999, c.23 (C.48:3-49 et al.), that arranges the sale of retail electricity or electric related services, or retail gas supply or gas related services, between government aggregators or private aggregators and electric power suppliers or gas suppliers, but does not take title to the electric or gas sold.

"Energy consumer" means a business or residential consumer of electric generation service or gas supply service located within the territorial jurisdiction of a government aggregator.

"Energy efficiency portfolio standard" means a requirement to procure a specified amount of energy efficiency or demand side management resources as a means of managing and reducing energy usage and demand by customers.

"Energy year" or "EY" means the 12-month period from June 1st through May 31st, numbered according to the calendar year in which it ends.

"Existing business relationship" means a relationship formed by a voluntary two-way communication between an electric power supplier, gas supplier, broker, energy agent, marketer, private aggregator, sales representative, or telemarketer and a customer, regardless of an exchange of consideration, on the basis of an inquiry, application, purchase, or transaction initiated by the customer regarding products or services offered by the electric power supplier, gas supplier, broker, energy agent, marketer, private aggregator, sales representative, or telemarketer; however, a consumer's use of electric generation service or gas supply service through the

consumer's electric public utility or gas public utility shall not constitute or establish an existing business relationship for the purpose of P.L.2013, c.263.

"Farmland" means land actively devoted to agricultural or horticultural use that is valued, assessed, and taxed pursuant to the "Farmland Assessment Act of 1964," P.L.1964, c.48 (C.54:4-23.1 et seq.).

"Federal Energy Regulatory Commission" or "FERC" means the federal agency established pursuant to 42 U.S.C. s.7171 et seq. to regulate the interstate transmission of electricity, natural gas, and oil.

"Final remediation document" shall have the same meaning as provided in section 3 of P.L.1976, c.141 (C.58:10-23.11b).

"Financing entity" means an electric public utility, a special purpose entity, or any other assignee of bondable transition property, which issues transition bonds. Except as specifically provided in P.L.1999, c.23 (C.48:3-49 et al.), a financing entity which is not itself an electric public utility shall not be subject to the public utility requirements of Title 48 of the Revised Statutes or any rules or regulations adopted pursuant thereto.

"Gas public utility" means a public utility, as that term is defined in R.S.48:2-13, that distributes gas to end users within this State.

"Gas related service" means a service that is directly related to the consumption of gas by an end user, including, but not limited to, the installation of demand side management measures at the end user's premises, the maintenance, repair or replacement of appliances or other energy-consuming devices at the end user's premises, and the provision of energy consumption measurement and billing services.

"Gas supplier" means a person that is duly licensed pursuant to the provisions of P.L.1999, c.23 (C.48:3-49 et al.) to offer and assume the contractual and legal obligation to provide gas supply service to retail customers, and includes, but is not limited to, marketers and brokers. A non-public utility affiliate of a public utility holding company may be a gas supplier, but a gas public utility or any subsidiary of a gas utility is not a gas supplier. In the event that a gas public utility is not part of a holding company legal structure, a related competitive business segment of that gas public utility may be a gas supplier, provided that related competitive business segment is structurally separated from the gas public utility, and provided that the interactions between the gas public utility and the related competitive business segment are subject to the affiliate relations standards adopted by the board pursuant to subsection k. of section 10 of P.L.1999, c.23 (C.48:3-58).

"Gas supply service" means the provision to customers of the retail commodity of gas, but does not include any regulated distribution service.

"Government aggregator" means any government entity subject to the requirements of the "Local Public Contracts Law," P.L.1971, c.198 (C.40A:11-1 et seq.), the "Public School Contracts Law," N.J.S.18A:18A-1 et seq., or the "County

College Contracts Law," P.L.1982, c.189 (C.18A:64A-25.1 et seq.), that enters into a written contract with a licensed electric power supplier or a licensed gas supplier for: (1) the provision of electric generation service, electric related service, gas supply service, or gas related service for its own use or the use of other government aggregators; or (2) if a municipal or county government, the provision of electric generation service or gas supply service on behalf of business or residential customers within its territorial jurisdiction.

"Government energy aggregation program" means a program and procedure pursuant to which a government aggregator enters into a written contract for the provision of electric generation service or gas supply service on behalf of business or residential customers within its territorial jurisdiction.

"Governmental entity" means any federal, state, municipal, local, or other governmental department, commission, board, agency, court, authority, or instrumentality having competent jurisdiction.

"Green Acres program" means the program for the acquisition of lands for recreation and conservation purposes pursuant to P.L.1961, c.45 (C.13:8A-1 et seq.), P.L.1971, c.419 (C.13:8A-19 et seq.), P.L.1975, c.155 (C.13:8A-35 et seq.), any Green Acres bond act, P.L.1999, c.152 (C.13:8C-1 et seq.), and P.L.2016, c.12 (C.13:8C-43 et seq.).

"Greenhouse gas emissions portfolio standard" means a requirement that addresses or limits the amount of carbon dioxide emissions indirectly resulting from the use of electricity as applied to any electric power suppliers and basic generation service providers of electricity.

“Grid supply solar facility” means a solar electric power generation facility that sells electricity at wholesale and is connected to the State's electric distribution or transmission systems. "Grid supply solar facility" does not include: (1) a net metered solar facility; (2) an on-site generation facility; (3) a facility participating in net metering aggregation pursuant to section 38 of P.L.1999, c.23 (C.48:3-87); (4) a facility participating in remote net metering; or (5) a community solar facility.

"Historic fill" means generally large volumes of non-indigenous material, no matter what date they were emplaced on the site, used to raise the topographic elevation of a site, which were contaminated prior to emplacement and are in no way connected with the operations at the location of emplacement and which include, but are not limited to, construction debris, dredge spoils, incinerator residue, demolition debris, fly ash, and non-hazardous solid waste. "Historic fill" shall not include any material which is substantially chromate chemical production waste or any other chemical production waste or waste from processing of metal or mineral ores, residues, slags, or tailings.

"Incremental auction" means an auction conducted by PJM, as part of PJM's reliability pricing model, prior to the start of the delivery year to secure electric

capacity as necessary to satisfy the capacity requirements for that delivery year, that is not otherwise provided for in the base residual auction.

"Leakage" means an increase in greenhouse gas emissions related to generation sources located outside of the State that are not subject to a state, interstate, or regional greenhouse gas emissions cap or standard that applies to generation sources located within the State.

"Locational deliverability area" or "LDA" means one or more of the zones within the PJM region which are used to evaluate area transmission constraints and reliability issues including electric public utility company zones, sub-zones, and combinations of zones.

"Long-term capacity agreement pilot program" or "LCAPP" means a pilot program established by the board that includes participation by eligible generators, to seek offers for financially-settled standard offer capacity agreements with eligible generators pursuant to the provisions of P.L.2011, c.9 (C.48:3-98.2 et al.).

"Market transition charge" means a charge imposed pursuant to section 13 of P.L.1999, c.23 (C.48:3-61) by an electric public utility, at a level determined by the board, on the electric public utility customers for a limited duration transition period to recover stranded costs created as a result of the introduction of electric power supply competition pursuant to the provisions of P.L.1999, c.23 (C.48:3-49 et al.).

"Marketer" means a duly licensed electric power supplier that takes title to electric energy and capacity, transmission, and other services from electric power generators and other wholesale suppliers and then assumes the contractual and legal obligation to provide electric generation service, and may include transmission and other services, to an end-use retail customer or customers, or a duly licensed gas supplier that takes title to gas and then assumes the contractual and legal obligation to provide gas supply service to an end-use customer or customers.

"Mid-merit electric power generation facility" means a generation facility that operates at a capacity factor between baseload generation facilities and peaker generation facilities.

"Net metered solar facility" means a solar electric power generation facility participating in the net metering program developed by the board pursuant to subsection e. of section 38 of P.L.1999, c.23 (C.48:3-87) or in a substantially similar program operated by a utility owned or operated by a local government unit.

"Net metering aggregation" means a procedure for calculating the combination of the annual energy usage for all facilities owned by a single customer where such customer is a State entity, school district, county, county agency, county authority, municipality, municipal agency, or municipal authority, and which are served by a solar electric power generating facility as provided pursuant to paragraph (4) of subsection e. of section 38 of P.L.1999, c.23 (C.48:3-87).

"Net proceeds" means proceeds less transaction and other related costs as determined by the board.

"Net revenues" means revenues less related expenses, including applicable taxes, as determined by the board.

"Offshore wind energy" means electric energy produced by a qualified offshore wind project.

"Offshore wind renewable energy certificate" or "OREC" means a certificate, issued by the board or its designee, representing the environmental attributes of one megawatt hour of electric generation from a qualified offshore wind project.

"Off-site end use thermal energy services customer" means an end use customer that purchases thermal energy services from an on-site generation facility, combined heat and power facility, or co-generation facility, and that is located on property that is separated from the property on which the on-site generation facility, combined heat and power facility, or co-generation facility is located by more than one easement, public thoroughfare, or transportation or utility-owned right-of-way.

"On-site generation facility" means a generation facility, including, but not limited to, a generation facility that produces Class I or Class II renewable energy, and equipment and services appurtenant to electric sales by such facility to the end use customer located on the property or on property contiguous to the property on which the end user is located. An on-site generation facility shall not be considered a public utility. The property of the end use customer and the property on which the on-site generation facility is located shall be considered contiguous if they are geographically located next to each other, but may be otherwise separated by an easement, public thoroughfare, transportation or utility-owned right-of-way, or if the end use customer is purchasing thermal energy services produced by the on-site generation facility, for use for heating or cooling, or both, regardless of whether the customer is located on property that is separated from the property on which the on-site generation facility is located by more than one easement, public thoroughfare, or transportation or utility-owned right-of-way.

"Open access offshore wind transmission facility" means an open access transmission facility, located either in the Atlantic Ocean or offshore, used to facilitate the collection of offshore wind energy or its delivery to the electronic transmission system in this State.

"Person" means an individual, partnership, corporation, association, trust, limited liability company, governmental entity, or other legal entity.

"PJM Interconnection, L.L.C." or "PJM" means the privately-held, limited liability corporation that serves as a FERC-approved Regional Transmission Organization, or its successor, that manages the regional, high-voltage electricity grid serving all or parts of 13 states including New Jersey and the District of Columbia, operates the regional competitive wholesale electric market, manages the regional transmission planning process, and establishes systems and rules to ensure that the regional and in-State energy markets operate fairly and efficiently.

"Preliminary assessment" shall have the same meaning as provided in section 3 of P.L.1976, c.141 (C.58:10-23.11b).

“Preserved farmland” means land on which a development easement was conveyed to, or retained by, the State Agriculture Development Committee, a county agriculture development board, or a qualifying tax exempt nonprofit organization pursuant to the provisions of section 24 of P.L.1983, c.32 (C.4:1C-31), section 5 of P.L.1988, c.4 (C.4:1C-31.1), section 1 of P.L.1989, c.28 (C.4:1C-38), section 1 of P.L.1999, c.180 (C.4:1C-43.1), sections 37 through 40 of P.L.1999, c.152 (C.13:8C-37 through C.13:8C-40), or any other State law enacted for farmland preservation purposes.

"Private aggregator" means a non-government aggregator that is a duly-organized business or non-profit organization authorized to do business in this State that enters into a contract with a duly licensed electric power supplier for the purchase of electric energy and capacity, or with a duly licensed gas supplier for the purchase of gas supply service, on behalf of multiple end-use customers by combining the loads of those customers.

"Properly closed sanitary landfill facility" means a sanitary landfill facility, or a portion of a sanitary landfill facility, for which performance is complete with respect to all activities associated with the design, installation, purchase, or construction of all measures, structures, or equipment required by the Department of Environmental Protection, pursuant to law, in order to prevent, minimize, or monitor pollution or health hazards resulting from a sanitary landfill facility subsequent to the termination of operations at any portion thereof, including, but not necessarily limited to, the placement of earthen or vegetative cover, and the installation of methane gas vents or monitors and leachate monitoring wells or collection systems at the site of any sanitary landfill facility.

"Public utility holding company" means: (1) any company that, directly or indirectly, owns, controls, or holds with power to vote, 10 percent or more of the outstanding voting securities of an electric public utility or a gas public utility or of a company which is a public utility holding company by virtue of this definition, unless the Securities and Exchange Commission, or its successor, by order declares such company not to be a public utility holding company under the Public Utility Holding Company Act of 1935, 15 U.S.C. s.79 et seq., or its successor; or (2) any person that the Securities and Exchange Commission, or its successor, determines, after notice and opportunity for hearing, directly or indirectly, to exercise, either alone or pursuant to an arrangement or understanding with one or more other persons, such a controlling influence over the management or policies of an electric public utility or a gas public utility or public utility holding company as to make it necessary or appropriate in the public interest or for the protection of investors or consumers that such person be subject to the obligations, duties, and liabilities

imposed in the Public Utility Holding Company Act of 1935, 15 U.S.C. s.79 et seq., or its successor act.

"Qualified offshore wind project" means a wind turbine electricity generation facility in the Atlantic Ocean and connected to the electric transmission system in this State, and includes the associated transmission-related interconnection facilities and equipment, and approved by the board pursuant to section 3 of P.L.2010, c.57 (C.48:3-87.1).

"Registration program" means an administrative process developed by the board pursuant to subsection u. of section 38 of P.L.1999, c.23 (C.48:3-87) that requires all owners of solar electric power generation facilities connected to the distribution system that intend to generate SRECs, to file with the board documents detailing the size, location, interconnection plan, land use, and other project information as required by the board.

"Regulatory asset" means an asset recorded on the books of an electric public utility or gas public utility pursuant to the Statement of Financial Accounting Standards, No. 71, entitled "Accounting for the Effects of Certain Types of Regulation," or any successor standard and as deemed recoverable by the board.

"Related competitive business segment of an electric public utility or gas public utility" means any business venture of an electric public utility or gas public utility including, but not limited to, functionally separate business units, joint ventures, and partnerships, that offers to provide or provides competitive services.

"Related competitive business segment of a public utility holding company" means any business venture of a public utility holding company, including, but not limited to, functionally separate business units, joint ventures, and partnerships and subsidiaries, that offers to provide or provides competitive services, but does not include any related competitive business segments of an electric public utility or gas public utility.

"Reliability pricing model" or "RPM" means PJM's capacity-market model, and its successors, that secures capacity on behalf of electric load serving entities to satisfy load obligations not satisfied through the output of electric generation facilities owned by those entities, or otherwise secured by those entities through bilateral contracts.

"Renewable energy certificate" or "REC" means a certificate representing the environmental benefits or attributes of one megawatt-hour of generation from a generating facility that produces Class I or Class II renewable energy, but shall not include a solar renewable energy certificate or an offshore wind renewable energy certificate.

"Resource clearing price" or "RCP" means the clearing price established for the applicable locational deliverability area by the base residual auction or incremental auction, as determined by the optimization algorithm for each auction, conducted by PJM as part of PJM's reliability pricing model.

"Resource recovery facility" means a solid waste facility constructed and operated for the incineration of solid waste for energy production and the recovery of metals and other materials for reuse, which the Department of Environmental Protection has determined to be in compliance with current environmental standards, including, but not limited to, all applicable requirements of the federal "Clean Air Act" (42 U.S.C. s.7401 et seq.).

"Restructuring related costs" means reasonably incurred costs directly related to the restructuring of the electric power industry, including the closure, sale, functional separation, and divestiture of generation and other competitive utility assets by a public utility, or the provision of competitive services as those costs are determined by the board, and which are not stranded costs as defined in P.L.1999, c.23 (C.48:3-49 et al.) but may include, but not be limited to, investments in management information systems, and which shall include expenses related to employees affected by restructuring which result in efficiencies and which result in benefits to ratepayers, such as training or retraining at the level equivalent to one year's training at a vocational or technical school or county community college, the provision of severance pay of two weeks of base pay for each year of full-time employment, and a maximum of 24 months' continued health care coverage. Except as to expenses related to employees affected by restructuring, "restructuring related costs" shall not include going forward costs.

"Retail choice" means the ability of retail customers to shop for electric generation or gas supply service from electric power or gas suppliers, or opt to receive basic generation service or basic gas service, and the ability of an electric power or gas supplier to offer electric generation service or gas supply service to retail customers, consistent with the provisions of P.L.1999, c.23 (C.48:3-49 et al.).

"Retail margin" means an amount, reflecting differences in prices that electric power suppliers and electric public utilities may charge in providing electric generation service and basic generation service, respectively, to retail customers, excluding residential customers, which the board may authorize to be charged to categories of basic generation service customers of electric public utilities in this State, other than residential customers, under the board's continuing regulation of basic generation service pursuant to sections 3 and 9 of P.L.1999, c.23 (C.48:3-51 and 48:3-57), for the purpose of promoting a competitive retail market for the supply of electricity.

"Sales representative" means a person employed by, acting on behalf of, or as an independent contractor for, an electric power supplier, gas supplier, broker, energy agent, marketer, or private aggregator who, by any means, solicits a potential residential customer for the provision of electric generation service or gas supply service.

"Sanitary landfill facility" shall have the same meaning as provided in section 3 of P.L.1970, c.39 (C.13:1E-3).

"School district" means a local or regional school district established pursuant to chapter 8 or chapter 13 of Title 18A of the New Jersey Statutes, a county special services school district established pursuant to article 8 of chapter 46 of Title 18A of the New Jersey Statutes, a county vocational school district established pursuant to article 3 of chapter 54 of Title 18A of the New Jersey Statutes, and a district under full State intervention pursuant to P.L.1987, c.399 (C.18A:7A-34 et al.).

"Shopping credit" means an amount deducted from the bill of an electric public utility customer to reflect the fact that the customer has switched to an electric power supplier and no longer takes basic generation service from the electric public utility.

"Site investigation" shall have the same meaning as provided in section 3 of P.L.1976, c.141 (C.58:10-23.11b).

"Small scale hydropower facility" means a facility located within this State that is connected to the distribution system, and that meets the requirements of, and has been certified by, a nationally recognized low-impact hydropower organization that has established low-impact hydropower certification criteria applicable to: (1) river flows; (2) water quality; (3) fish passage and protection; (4) watershed protection; (5) threatened and endangered species protection; (6) cultural resource protection; (7) recreation; and (8) facilities recommended for removal.

"Social program" means a program implemented with board approval to provide assistance to a group of disadvantaged customers, to provide protection to consumers, or to accomplish a particular societal goal, and includes, but is not limited to, the winter moratorium program, utility practices concerning "bad debt" customers, low income assistance, deferred payment plans, weatherization programs, and late payment and deposit policies, but does not include any demand side management program or any environmental requirements or controls.

"Societal benefits charge" means a charge imposed by an electric public utility, at a level determined by the board, pursuant to, and in accordance with, section 12 of P.L.1999, c.23 (C.48:3-60).

"Solar alternative compliance payment" or "SACP" means a payment of a certain dollar amount per megawatt hour (MWh) which an electric power supplier or provider may submit to the board in order to comply with the solar electric generation requirements under section 38 of P.L.1999, c.23 (C.48:3-87).

"Solar renewable energy certificate" or "SREC" means a certificate issued by the board or its designee, representing one megawatt hour (MWh) of solar energy that is generated by a facility connected to the distribution system in this State and has value based upon, and driven by, the energy market.

"Solar renewable energy certificate II" or "SREC-II" means a transferable certificate, issued by the board or its designee pursuant to P.L.2021, c.169 (C.48:3-114 et al.), which is capable of counting towards the renewable energy portfolio standards of an electric power supplier or basic generation service provider in the State pursuant to section 38 of P.L.1999, c.23 (C.48:3-87).

"SREC-II program" means the program established pursuant to section 2 of P.L.2021, c.169 (C.48:3-115) to distribute SREC-IIs.

"SREC-II value per megawatt-hour" means the value, in dollars-per-megawatt-hour, assigned by the board to each solar electric power generation facility eligible to receive SREC-IIs, which is paid to the facility and which represents the environmental attributes of the facility.

"Standard offer capacity agreement" or "SOCA" means a financially-settled transaction agreement, approved by board order, that provides for eligible generators to receive payments from the electric public utilities for a defined amount of electric capacity for a term to be determined by the board but not to exceed 15 years, and for such payments to be a fully non-bypassable charge, with such an order, once issued, being irrevocable.

"Standard offer capacity price" or "SOCP" means the capacity price that is fixed for the term of the SOCA and which is the price to be received by eligible generators under a board-approved SOCA.

"State entity" means a department, agency, or office of State government, a State university or college, or an authority created by the State.

"Stranded cost" means the amount by which the net cost of an electric public utility's electric generating assets or electric power purchase commitments, as determined by the board consistent with the provisions of P.L.1999, c.23 (C.48:3-49 et al.), exceeds the market value of those assets or contractual commitments in a competitive supply marketplace and the costs of buydowns or buyouts of power purchase contracts.

"Stranded costs recovery order" means each order issued by the board in accordance with subsection c. of section 13 of P.L.1999, c.23 (C.48:3-61) which sets forth the amount of stranded costs, if any, the board has determined an electric public utility is eligible to recover and collect in accordance with the standards set forth in section 13 of P.L.1999, c.23 (C.48:3-61) and the recovery mechanisms therefor.

"Telemarketer" shall have the same meaning as set forth in section 2 of P.L.2003, c.76 (C.56:8-120).

"Telemarketing sales call" means a telephone call made by a telemarketer to a potential residential customer as part of a plan, program, or campaign to encourage the customer to change the customer's electric power supplier or gas supplier. A telephone call made to an existing customer of an electric power supplier, gas supplier, broker, energy agent, marketer, private aggregator, or sales representative, for the sole purpose of collecting on accounts or following up on contractual obligations, shall not be deemed a telemarketing sales call. A telephone call made in response to an express written request of a customer shall not be deemed a telemarketing sales call.

"Thermal efficiency" means the useful electric energy output of a facility, plus the useful thermal energy output of the facility, expressed as a percentage of the total energy input to the facility.

"Transition bond charge" means a charge, expressed as an amount per kilowatt hour, that is authorized by and imposed on electric public utility ratepayers pursuant to a bondable stranded costs rate order, as modified at any time pursuant to the provisions of P.L.1999, c.23 (C.48:3-49 et al.).

"Transition bonds" means bonds, notes, certificates of participation, beneficial interest, or other evidences of indebtedness or ownership issued pursuant to an indenture, contract, or other agreement of an electric public utility or a financing entity, the proceeds of which are used, directly or indirectly, to recover, finance or refinance bondable stranded costs and which are, directly or indirectly, secured by or payable from bondable transition property. References in P.L.1999, c.23 (C.48:3-49 et al.) to principal, interest, and acquisition or redemption premium with respect to transition bonds which are issued in the form of certificates of participation or beneficial interest or other evidences of ownership shall refer to the comparable payments on such securities.

"Transition period" means the period from August 1, 1999 through July 31, 2003.

"Transmission and distribution system" means, with respect to an electric public utility, any facility or equipment that is used for the transmission, distribution, or delivery of electricity to the customers of the electric public utility including, but not limited to, the land, structures, meters, lines, switches, and all other appurtenances thereof and thereto, owned or controlled by the electric public utility within this State.

"Universal service" means any service approved by the board with the purpose of assisting low-income residential customers in obtaining or retaining electric generation or delivery service.

"Unsolicited advertisement" means any advertising claims of the commercial availability or quality of services provided by an electric power supplier, gas supplier, broker, energy agent, marketer, private aggregator, sales representative, or telemarketer which is transmitted to a potential customer without that customer's prior express invitation or permission.

10. Section 38 of P.L.1999, c.23 (C.48:3-87) is amended to read as follows:

C.48:3-87 Environmental disclosure requirements; standards; rules.

38. a. The board shall require an electric power supplier or basic generation service provider to disclose on a customer's bill or on customer contracts or marketing materials, a uniform, common set of information about the environmental characteristics of the energy purchased by the customer, including, but not limited to:

(1) Its fuel mix, including categories for oil, gas, nuclear, coal, solar, hydroelectric, wind and biomass, or a regional average determined by the board;

(2) Its emissions, in pounds per megawatt hour, of sulfur dioxide, carbon dioxide, oxides of nitrogen, and any other pollutant that the board may determine to pose an environmental or health hazard, or an emissions default to be determined by the board; and

(3) Any discrete emission reduction retired pursuant to rules and regulations adopted pursuant to P.L.1995, c.188.

b. Notwithstanding any provisions of the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.) to the contrary, the board shall initiate a proceeding and shall adopt, in consultation with the Department of Environmental Protection, after notice and opportunity for public comment and public hearing, interim standards to implement this disclosure requirement, including, but not limited to:

(1) A methodology for disclosure of emissions based on output pounds per megawatt hour;

(2) Benchmarks for all suppliers and basic generation service providers to use in disclosing emissions that will enable consumers to perform a meaningful comparison with a supplier's or basic generation service provider's emission levels; and

(3) A uniform emissions disclosure format that is graphic in nature and easily understandable by consumers. The board shall periodically review the disclosure requirements to determine if revisions to the environmental disclosure system as implemented are necessary.

Such standards shall be effective as regulations immediately upon filing with the Office of Administrative Law and shall be effective for a period not to exceed 18 months, and may, thereafter, be amended, adopted or readopted by the board in accordance with the provisions of the "Administrative Procedure Act."

c. (1) The board may adopt, in consultation with the Department of Environmental Protection, after notice and opportunity for public comment, an emissions portfolio standard applicable to all electric power suppliers and basic generation service providers, upon a finding that:

(a) The standard is necessary as part of a plan to enable the State to meet federal Clean Air Act or State ambient air quality standards; and

(b) Actions at the regional or federal level cannot reasonably be expected to achieve the compliance with the federal standards.

(2) By July 1, 2009, the board shall adopt, pursuant to the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.), a greenhouse gas emissions portfolio standard to mitigate leakage or another regulatory mechanism to mitigate leakage applicable to all electric power suppliers and basic generation service providers that provide electricity to customers within the State. The greenhouse gas

emissions portfolio standard or any other regulatory mechanism to mitigate leakage shall:

(a) Allow a transition period, either before or after the effective date of the regulation to mitigate leakage, for a basic generation service provider or electric power supplier to either meet the emissions portfolio standard or other regulatory mechanism to mitigate leakage, or to transfer any customer to a basic generation service provider or electric power supplier that meets the emissions portfolio standard or other regulatory mechanism to mitigate leakage. If the transition period allowed pursuant to this subparagraph occurs after the implementation of an emissions portfolio standard or other regulatory mechanism to mitigate leakage, the transition period shall be no longer than three years; and

(b) Exempt the provision of basic generation service pursuant to a basic generation service purchase and sale agreement effective prior to the date of the regulation.

Unless the Attorney General or the Attorney General's designee determines that a greenhouse gas emissions portfolio standard would unconstitutionally burden interstate commerce or would be preempted by federal law, the adoption by the board of an electric energy efficiency portfolio standard pursuant to subsection g. of this section, a gas energy efficiency portfolio standard pursuant to subsection h. of this section, or any other enhanced energy efficiency policies to mitigate leakage shall not be considered sufficient to fulfill the requirement of this subsection for the adoption of a greenhouse gas emissions portfolio standard or any other regulatory mechanism to mitigate leakage.

d. Notwithstanding any provisions of the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.) to the contrary, the board shall initiate a proceeding and shall adopt, after notice, provision of the opportunity for comment, and public hearing, renewable energy portfolio standards that shall require:

(1) that two and one-half percent of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider be from Class II renewable energy sources;

(2) beginning on January 1, 2020, that 21 percent of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider be from Class I renewable energy sources. The board shall increase the required percentage for Class I renewable energy sources so that by January 1, 2025, 35 percent of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider shall be from Class I renewable energy sources, and by January 1, 2030, 50 percent of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider shall be from Class I renewable energy sources. Notwithstanding the requirements of this subsection, the board shall ensure that the cost to customers of the Class I renewable energy requirement imposed pursuant to this subsection shall not exceed nine

percent of the total paid for electricity by all customers in the State for energy year 2019, energy year 2020, and energy year 2021, respectively, and shall not exceed seven percent of the total paid for electricity by all customers in the State in any energy year thereafter; provided that, if in energy years 2019 through 2021 the cost to customers of the Class I renewable energy requirement is less than nine percent of the total paid for electricity by all customers in the State, the board may increase the cost to customers of the Class I renewable energy requirement in energy years 2022 through 2024 to a rate greater than seven percent, as long as the total costs to customers for energy years 2019 through 2024 does not exceed the sum of nine percent of the total paid for electricity by all customers in the State in energy years 2019 through 2021 and seven percent of the total paid for electricity by all customers in the State in energy years 2022 through 2024. In calculating the cost to customers of the Class I renewable energy requirement imposed pursuant to this subsection, the board shall not include the costs of the offshore wind energy certificate program established pursuant to paragraph (4) of this subsection. In calculating the cost to customers of the Class I renewable energy requirement, the board shall reflect any energy and environmental savings attributable to the Class I program in its calculation, which shall include, but not be limited to, the social cost of carbon dioxide emissions at a value no less than the most recently published three percent discount rate scenario of the United States Government Interagency Working Group on Social Cost of Greenhouse Gases. The board shall take any steps necessary to prevent the exceedance of the cap on the cost to customers including, but not limited to, adjusting the Class I renewable energy requirement.

An electric power supplier or basic generation service provider may satisfy the requirements of this subsection by participating in a renewable energy trading program approved by the board in consultation with the Department of Environmental Protection;

(3) that the board establish a multi-year schedule, applicable to each electric power supplier or basic generation service provider in this State, beginning with the one-year period commencing on June 1, 2010, and continuing for each subsequent one-year period up to and including, the one-year period commencing on June 1, 2033, that requires the following number or percentage, as the case may be, of kilowatt-hours sold in this State by each electric power supplier and each basic generation service provider to be from solar electric power generators connected to the distribution system or transmission system in this State:

EY 2011	306 Gigawatthours (Gwhrs)
EY 2012	442 Gwhrs
EY 2013	596 Gwhrs
EY 2014	2.050%
EY 2015	2.450%
EY 2016	2.750%

EY 2017	3.000%
EY 2018	3.200%
EY 2019	4.300%
EY 2020	4.900%
EY 2021	5.100%
EY 2022	5.100%
EY 2023	5.100%
EY 2024	4.900%
EY 2025	4.800%
EY 2026	4.500%
EY 2027	4.350%
EY 2028	3.740%
EY 2029	3.070%
EY 2030	2.210%
EY 2031	1.580%
EY 2032	1.400%
EY 2033	1.100%

No later than 180 days after the date of enactment of P.L.2018, c.17 (C.48:3-87.8 et al.), the board shall adopt rules and regulations to close the SREC program to new applications upon the attainment of 5.1 percent of the kilowatt-hours sold in the State by each electric power supplier and each basic generation provider from solar electric power generators connected to the distribution system. The board shall continue to consider any application filed before the date of enactment of P.L.2018, c.17 (C.48:3-87.8 et al.). The board shall provide for an orderly and transparent mechanism that will result in the closing of the existing SREC program on a date certain but no later than June 1, 2021.

No later than 24 months after the date of enactment of P.L.2018, c.17 (C.48:3-87.8 et al.), the board shall complete a study that evaluates how to modify or replace the SREC program to encourage the continued efficient and orderly development of solar renewable energy generating sources throughout the State. The board shall submit the written report thereon to the Governor and, pursuant to section 2 of P.L.1991, c.164 (C.52:14-19.1), to the Legislature. The board shall consult with public utilities, industry experts, regional grid operators, solar power providers and financiers, and other State agencies to determine whether the board can modify the SREC program such that the program will:

- continually reduce, where feasible, the cost of achieving the solar energy goals set forth in this subsection;
- provide an orderly transition from the SREC program to a new or modified program;
- develop megawatt targets for grid connected and distribution systems, including residential and small commercial rooftop systems, community solar

systems, and large scale behind the meter systems, as a share of the overall solar energy requirement, which targets the board may modify periodically based on the cost, feasibility, or social impacts of different types of projects;

- establish and update market-based maximum incentive payment caps periodically for each of the above categories of solar electric power generation facilities;

- encourage and facilitate market-based cost recovery through long-term contracts and energy market sales; and

- where cost recovery is needed for any portion of an efficient solar electric power generation facility when costs are not recoverable through wholesale market sales and direct payments from customers, utilize competitive processes such as competitive procurement and long-term contracts where possible to ensure such recovery, without exceeding the maximum incentive payment cap for that category of facility.

The board shall approve, conditionally approve, or disapprove any application for designation as connected to the distribution system of a solar electric power generation facility filed with the board after the date of enactment of P.L.2018, c.17 (C.48:3-87.8 et al.), no more than 90 days after receipt by the board of a completed application. For any such application for a project greater than 25 kilowatts, the board shall require the applicant to post a notice escrow with the board in an amount of $40 per kilowatt of DC nameplate capacity of the facility, not to exceed $40,000. The notice escrow amount shall be reimbursed to the applicant in full upon either denial of the application by the board or upon commencement of commercial operation of the solar electric power generation facility. The escrow amount shall be forfeited to the State if the facility is designated as connected to the distribution system pursuant to this subsection but does not commence commercial operation within two years following the date of the designation by the board.

For all applications for designation as connected to the distribution system of a solar electric power generation facility filed with the board after the date of enactment of P.L.2018, c.17 (C.48:3-87.8 et al.), the SREC term shall be 10 years.

(a) The board shall determine an appropriate period of no less than 120 days following the end of an energy year prior to which a provider or supplier must demonstrate compliance for that energy year with the annual renewable portfolio standard;

(b) No more than 24 months following the date of enactment of P.L.2012, c.24, the board shall complete a proceeding to investigate approaches to mitigate solar development volatility and prepare and submit, pursuant to section 2 of P.L.1991, c.164 (C.52:14-19.1), a report to the Legislature, detailing its findings and recommendations. As part of the proceeding, the board shall evaluate other techniques used nationally and internationally;

(c) The solar renewable portfolio standards requirements in this paragraph shall exempt those existing supply contracts which are effective prior to the date of enactment of P.L.2018, c.17 (C.48:3-87.8 et al.) from any increase beyond the number of SRECs mandated by the solar renewable energy portfolio standards requirements that were in effect on the date that the providers executed their existing supply contracts. This limited exemption for providers' existing supply contracts shall not be construed to lower the Statewide solar sourcing requirements set forth in this paragraph. Such incremental requirements that would have otherwise been imposed on exempt providers shall be distributed over the providers not subject to the existing supply contract exemption until such time as existing supply contracts expire and all providers are subject to the new requirement in a manner that is competitively neutral among all providers and suppliers. Notwithstanding any rule or regulation to the contrary, the board shall recognize these new solar purchase obligations as a change required by operation of law and implement the provisions of this subsection in a manner so as to prevent any subsidies between suppliers and providers and to promote competition in the electricity supply industry.

An electric power supplier or basic generation service provider may satisfy the requirements of this subsection by participating in a renewable energy trading program approved by the board in consultation with the Department of Environmental Protection, or compliance with the requirements of this subsection may be demonstrated to the board by suppliers or providers through the purchase of SRECs.

The renewable energy portfolio standards adopted by the board pursuant to paragraphs (1) and (2) of this subsection shall be effective as regulations immediately upon filing with the Office of Administrative Law and shall be effective for a period not to exceed 18 months, and may, thereafter, be amended, adopted or readopted by the board in accordance with the provisions of the "Administrative Procedure Act."

The renewable energy portfolio standards adopted by the board pursuant to this paragraph shall be effective as regulations immediately upon filing with the Office of Administrative Law and shall be effective for a period not to exceed 30 months after such filing, and shall, thereafter, be amended, adopted or readopted by the board in accordance with the "Administrative Procedure Act"; and

(4) within 180 days after the date of enactment of P.L.2010, c.57 (C.48:3-87.1 et al.), that the board establish an offshore wind renewable energy certificate program to require that a percentage of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider be from offshore wind energy in order to support at least 3,500 megawatts of generation from qualified offshore wind projects.

The percentage established by the board pursuant to this paragraph shall serve as an offset to the renewable energy portfolio standard established pursuant to

paragraph (2) of this subsection and shall reduce the corresponding Class I renewable energy requirement.

The percentage established by the board pursuant to this paragraph shall reflect the projected OREC production of each qualified offshore wind project, approved by the board pursuant to section 3 of P.L.2010, c.57 (C.48:3-87.1), for 20 years from the commercial operation start date of the qualified offshore wind project which production projection and OREC purchase requirement, once approved by the board, shall not be subject to reduction.

An electric power supplier or basic generation service provider shall comply with the OREC program established pursuant to this paragraph through the purchase of offshore wind renewable energy certificates at a price and for the time period required by the board. In the event there are insufficient offshore wind renewable energy certificates available, the electric power supplier or basic generation service provider shall pay an offshore wind alternative compliance payment established by the board. Any offshore wind alternative compliance payments collected shall be refunded directly to the ratepayers by the electric public utilities.

The rules established by the board pursuant to this paragraph shall be effective as regulations immediately upon filing with the Office of Administrative Law and shall be effective for a period not to exceed 18 months, and may, thereafter, be amended, adopted or readopted by the board in accordance with the provisions of the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.).

e. Notwithstanding any provisions of the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.) to the contrary, the board shall initiate a proceeding and shall adopt, after notice, provision of the opportunity for comment, and public hearing:

(1) net metering standards for electric power suppliers and basic generation service providers. The standards shall require electric power suppliers and basic generation service providers to offer net metering at non-discriminatory rates to industrial, large commercial, residential and small commercial customers, as those customers are classified or defined by the board, that generate electricity, on the customer's side of the meter, using a Class I renewable energy source, for the net amount of electricity supplied by the electric power supplier or basic generation service provider over an annualized period. Systems of any sized capacity, as measured in watts, are eligible for net metering. If the amount of electricity generated by the customer-generator, plus any kilowatt hour credits held over from the previous billing periods, exceeds the electricity supplied by the electric power supplier or basic generation service provider, then the electric power supplier or basic generation service provider, as the case may be, shall credit the customer-generator for the excess kilowatt hours until the end of the annualized period at which point the customer-generator will be compensated for any remaining credits or, if the customer-generator chooses, credit the customer-generator on a real-time

basis, at the electric power supplier's or basic generation service provider's avoided cost of wholesale power or the PJM electric power pool's real-time locational marginal pricing rate, adjusted for losses, for the respective zone in the PJM electric power pool. Alternatively, the customer-generator may execute a bilateral agreement with an electric power supplier or basic generation service provider for the sale and purchase of the customer-generator's excess generation. The customer-generator may be credited on a real-time basis, so long as the customer-generator follows applicable rules prescribed by the PJM electric power pool for its capacity requirements for the net amount of electricity supplied by the electric power supplier or basic generation service provider. The board may authorize an electric power supplier or basic generation service provider to cease offering net metering to customers that are not already net metered whenever the total rated generating capacity owned and operated by net metering customer-generators Statewide equals 5.8 percent of the total annual kilowatt-hours sold in this State by each electric power supplier and each basic generation service provider during the prior one-year period;

(2) safety and power quality interconnection standards for Class I renewable energy source systems used by a customer-generator that shall be eligible for net metering.

Such standards or rules shall take into consideration the goals of the New Jersey Energy Master Plan, applicable industry standards, and the standards of other states and the Institute of Electrical and Electronics Engineers. The board shall allow electric public utilities to recover the costs of any new net meters, upgraded net meters, system reinforcements or upgrades, and interconnection costs through either their regulated rates or from the net metering customer-generator;

(3) credit or other incentive rules for generators using Class I renewable energy generation systems that connect to New Jersey's electric public utilities' distribution system but who do not net meter; and

(4) net metering aggregation standards to require electric public utilities to provide net metering aggregation to single electric public utility customers that operate a solar electric power generation system installed at one of the customer's facilities or on property owned by the customer, provided that any such customer is a State entity, school district, county, county agency, county authority, municipality, municipal agency, or municipal authority. The standards shall provide that, in order to qualify for net metering aggregation, the customer must operate a solar electric power generation system using a net metering billing account, which system is located on property owned by the customer, provided that: (a) the property is not land that has been actively devoted to agricultural or horticultural use and that is valued, assessed, and taxed pursuant to the "Farmland Assessment Act of 1964," P.L.1964, c.48 (C.54:4-23.1 et seq.) at any time within the 10-year period prior to the effective date of P.L.2012, c.24, provided, however, that the municipal planning board of a municipality in which a solar electric power generation system is located

may waive the requirement of this subparagraph (a), (b) the system is not an on-site generation facility, (c) all of the facilities of the single customer combined for the purpose of net metering aggregation are facilities owned or operated by the single customer and are located within its territorial jurisdiction except that all of the facilities of a State entity engaged in net metering aggregation shall be located within five miles of one another, and (d) all of those facilities are within the service territory of a single electric public utility and are all served by the same basic generation service provider or by the same electric power supplier. The standards shall provide that, in order to qualify for net metering aggregation, the customer's solar electric power generation system shall be sized so that its annual generation does not exceed the combined metered annual energy usage of the qualified customer facilities, and the qualified customer facilities shall all be in the same customer rate class under the applicable electric public utility tariff. For the customer's facility or property on which the solar electric generation system is installed, the electricity generated from the customer's solar electric generation system shall be accounted for pursuant to the provisions of paragraph (1) of this subsection to provide that the electricity generated in excess of the electricity supplied by the electric power supplier or the basic generation service provider, as the case may be, for the customer's facility on which the solar electric generation system is installed, over the annualized period, is credited at the electric power supplier's or the basic generation service provider's avoided cost of wholesale power or the PJM electric power pool real-time locational marginal pricing rate. All electricity used by the customer's qualified facilities, with the exception of the facility or property on which the solar electric power generation system is installed, shall be billed at the full retail rate pursuant to the electric public utility tariff applicable to the customer class of the customer using the electricity. A customer may contract with a third party to operate a solar electric power generation system, for the purpose of net metering aggregation. Any contractual relationship entered into for operation of a solar electric power generation system related to net metering aggregation shall include contractual protections that provide for adequate performance and provision for construction and operation for the term of the contract, including any appropriate bonding or escrow requirements. Any incremental cost to an electric public utility for net metering aggregation shall be fully and timely recovered in a manner to be determined by the board. The board shall adopt net metering aggregation standards within 270 days after the effective date of P.L.2012, c.24.

Such rules shall require the board or its designee to issue a credit or other incentive to those generators that do not use a net meter but otherwise generate electricity derived from a Class I renewable energy source and to issue an enhanced credit or other incentive, including, but not limited to, a solar renewable energy credit, to those generators that generate electricity derived from solar technologies.

Such standards or rules shall be effective as regulations immediately upon filing with the Office of Administrative Law and shall be effective for a period not to exceed 18 months, and may, thereafter, be amended, adopted or readopted by the board in accordance with the provisions of the "Administrative Procedure Act."

f. The board may assess, by written order and after notice and opportunity for comment, a separate fee to cover the cost of implementing and overseeing an emission disclosure system or emission portfolio standard, which fee shall be assessed based on an electric power supplier's or basic generation service provider's share of the retail electricity supply market. The board shall not impose a fee for the cost of implementing and overseeing a greenhouse gas emissions portfolio standard adopted pursuant to paragraph (2) of subsection c. of this section.

g. The board shall adopt, pursuant to the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.), an electric energy efficiency program in order to ensure investment in cost-effective energy efficiency measures, ensure universal access to energy efficiency measures, and serve the needs of low-income communities that shall require each electric public utility to implement energy efficiency measures that reduce electricity usage in the State pursuant to section 3 of P.L.2018, c.17 (C.48:3-87.9). Nothing in this subsection shall be construed to prevent an electric public utility from meeting the requirements of this subsection by contracting with another entity for the performance of the requirements.

h. The board shall adopt, pursuant to the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.), a gas energy efficiency program in order to ensure investment in cost-effective energy efficiency measures, ensure universal access to energy efficiency measures, and serve the needs of low-income communities that shall require each gas public utility to implement energy efficiency measures that reduce natural gas usage in the State pursuant to section 3 of P.L.2018, c.17 (C.48:3-87.9). Nothing in this subsection shall be construed to prevent a gas public utility from meeting the requirements of this subsection by contracting with another entity for the performance of the requirements.

i. After the board establishes a schedule of solar kilowatt-hour sale or purchase requirements pursuant to paragraph (3) of subsection d. of this section, the board may initiate subsequent proceedings and adopt, after appropriate notice and opportunity for public comment and public hearing, increased minimum solar kilowatt-hour sale or purchase requirements, provided that the board shall not reduce previously established minimum solar kilowatt-hour sale or purchase requirements, or otherwise impose constraints that reduce the requirements by any means.

j. The board shall determine an appropriate level of solar alternative compliance payment, and permit each supplier or provider to submit an SACP to comply with the solar electric generation requirements of paragraph (3) of subsection d. of this section. The value of the SACP for each Energy Year, for Energy Years

2014 through 2033 per megawatt hour from solar electric generation required pursuant to this section, shall be:

EY 2014	$339
EY 2015	$331
EY 2016	$323
EY 2017	$315
EY 2018	$308
EY 2019	$268
EY 2020	$258
EY 2021	$248
EY 2022	$238
EY 2023	$228
EY 2024	$218
EY 2025	$208
EY 2026	$198
EY 2027	$188
EY 2028	$178
EY 2029	$168
EY 2030	$158
EY 2031	$148
EY 2032	$138
EY 2033	$128.

The board may initiate subsequent proceedings and adopt, after appropriate notice and opportunity for public comment and public hearing, an increase in solar alternative compliance payments, provided that the board shall not reduce previously established levels of solar alternative compliance payments, nor shall the board provide relief from the obligation of payment of the SACP by the electric power suppliers or basic generation service providers in any form. Any SACP payments collected shall be refunded directly to the ratepayers by the electric public utilities.

k. The board may allow electric public utilities to offer long-term contracts through a competitive process, direct electric public utility investment and other means of financing, including but not limited to loans, for the purchase of SRECs and the resale of SRECs to suppliers or providers or others, provided that after such contracts have been approved by the board, the board's approvals shall not be modified by subsequent board orders. If the board allows the offering of contracts pursuant to this subsection, the board may establish a process, after hearing, and opportunity for public comment, to provide that a designated segment of the contracts approved pursuant to this subsection shall be contracts involving solar electric power generation facility projects with a capacity of up to 250 kilowatts.

l. The board shall implement its responsibilities under the provisions of this section in such a manner as to:

(1) place greater reliance on competitive markets, with the explicit goal of encouraging and ensuring the emergence of new entrants that can foster innovations and price competition;

(2) maintain adequate regulatory authority over non-competitive public utility services;

(3) consider alternative forms of regulation in order to address changes in the technology and structure of electric public utilities;

(4) promote energy efficiency and Class I renewable energy market development, taking into consideration environmental benefits and market barriers;

(5) make energy services more affordable for low and moderate income customers;

(6) attempt to transform the renewable energy market into one that can move forward without subsidies from the State or public utilities;

(7) achieve the goals put forth under the renewable energy portfolio standards;

(8) promote the lowest cost to ratepayers; and

(9) allow all market segments to participate.

m. The board shall ensure the availability of financial incentives under its jurisdiction, including, but not limited to, long-term contracts, loans, SRECs, or other financial support, to ensure market diversity, competition, and appropriate coverage across all ratepayer segments, including, but not limited to, residential, commercial, industrial, non-profit, farms, schools, and public entity customers.

n. For projects which are owned, or directly invested in, by a public utility pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1), the board shall determine the number of SRECs with which such projects shall be credited; and in determining such number the board shall ensure that the market for SRECs does not detrimentally affect the development of non-utility solar projects and shall consider how its determination may impact the ratepayers.

o. The board, in consultation with the Department of Environmental Protection, electric public utilities, the Division of Rate Counsel in, but not of, the Department of the Treasury, affected members of the solar energy industry, and relevant stakeholders, shall periodically consider increasing the renewable energy portfolio standards beyond the minimum amounts set forth in subsection d. of this section, taking into account the cost impacts and public benefits of such increases including, but not limited to:

(1) reductions in air pollution, water pollution, land disturbance, and greenhouse gas emissions;

(2) reductions in peak demand for electricity and natural gas, and the overall impact on the costs to customers of electricity and natural gas;

(3) increases in renewable energy development, manufacturing, investment, and job creation opportunities in this State; and

(4) reductions in State and national dependence on the use of fossil fuels.

p. Class I RECs and ORECs shall be eligible for use in renewable energy portfolio standards compliance in the energy year in which they are generated, and for the following two energy years. SRECs shall be eligible for use in renewable energy portfolio standards compliance in the energy year in which they are generated, and for the following four energy years.

q. (1) During the energy years of 2014, 2015, and 2016, a solar electric power generation facility project that is not: (a) net metered; (b) an on-site generation facility; (c) qualified for net metering aggregation; or (d) certified as being located on a brownfield, on an area of historic fill or on a properly closed sanitary landfill facility, as provided pursuant to subsection t. of this section may file an application with the board for approval of a designation pursuant to this subsection that the facility is connected to the distribution system. An application filed pursuant to this subsection shall include a notice escrow of $40,000 per megawatt of the proposed capacity of the facility. The board shall approve the designation if: the facility has filed a notice in writing with the board applying for designation pursuant to this subsection, together with the notice escrow; and the capacity of the facility, when added to the capacity of other facilities that have been previously approved for designation prior to the facility's filing under this subsection, does not exceed 80 megawatts in the aggregate for each year. The capacity of any one solar electric power supply project approved pursuant to this subsection shall not exceed 10 megawatts. No more than 90 days after its receipt of a completed application for designation pursuant to this subsection, the board shall approve, conditionally approve, or disapprove the application. The notice escrow shall be reimbursed to the facility in full upon either rejection by the board or the facility entering commercial operation, or shall be forfeited to the State if the facility is designated pursuant to this subsection but does not enter commercial operation pursuant to paragraph (2) of this subsection.

(2) If the proposed solar electric power generation facility does not commence commercial operations within two years following the date of the designation by the board pursuant to this subsection, the designation of the facility shall be deemed to be null and void, and the facility shall not be considered connected to the distribution system thereafter.

(3) Notwithstanding the provisions of paragraph (2) of this subsection, a solar electric power generation facility project that as of May 31, 2017 was designated as "connected to the distribution system," but failed to commence commercial operations as of that date, shall maintain that designation if it commences commercial operations by May 31, 2018.

r. (1) For all proposed solar electric power generation facility projects except for those solar electric power generation facility projects approved pursuant to subsection q. of this section, and for all projects proposed in energy year 2019 and energy year 2020, the board may approve projects for up to 50 megawatts annually

in auctioned capacity in two auctions per year as long as the board is accepting applications. If the board approves projects for less than 50 megawatts in energy year 2019 or less than 50 megawatts in energy year 2020, the difference in each year shall be carried over into the successive energy year until 100 megawatts of auctioned capacity has been approved by the board pursuant to this subsection. A proposed solar electric power generation facility that is neither net metered nor an on-site generation facility, may be considered "connected to the distribution system" only upon designation as such by the board, after notice to the public and opportunity for public comment or hearing. A proposed solar electric power generation facility seeking board designation as "connected to the distribution system" shall submit an application to the board that includes for the proposed facility: the nameplate capacity; the estimated energy and number of SRECs to be produced and sold per year; the estimated annual rate impact on ratepayers; the estimated capacity of the generator as defined by PJM for sale in the PJM capacity market; the point of interconnection; the total project acreage and location; the current land use designation of the property; the type of solar technology to be used; and such other information as the board shall require.

(2) The board shall approve the designation of the proposed solar electric power generation facility as "connected to the distribution system" if the board determines that:

(a) the SRECs forecasted to be produced by the facility do not have a detrimental impact on the SREC market or on the appropriate development of solar power in the State;

(b) the approval of the designation of the proposed facility would not significantly impact the preservation of open space in this State;

(c) the impact of the designation on electric rates and economic development is beneficial; and

(d) there will be no impingement on the ability of an electric public utility to maintain its property and equipment in such a condition as to enable it to provide safe, adequate, and proper service to each of its customers.

(3) The board shall act within 90 days of its receipt of a completed application for designation of a solar electric power generation facility as "connected to the distribution system," to either approve, conditionally approve, or disapprove the application. If the proposed solar electric power generation facility does not commence commercial operations within two years following the date of the designation by the board pursuant to this subsection, the designation of the facility as "connected to the distribution system" shall be deemed to be null and void, and the facility shall thereafter be considered not "connected to the distribution system."

s. In addition to any other requirements of P.L.1999, c.23 or any other law, rule, regulation or order, a solar electric power generation facility that is not net metered or an on-site generation facility and which is located on land that has been

actively devoted to agricultural or horticultural use that is valued, assessed, and taxed pursuant to the "Farmland Assessment Act of 1964," P.L.1964, c.48 (C.54:4-23.1 et seq.) at any time within the 10-year period prior to the effective date of P.L.2012, c.24, shall only be considered "connected to the distribution system" if (1) the board approves the facility's designation pursuant to subsection q. of this section; or (2) (a) PJM issued a System Impact Study for the facility on or before June 30, 2011, (b) the facility files a notice with the board within 60 days of the effective date of P.L.2012, c.24, indicating its intent to qualify under this subsection, and (c) the facility has been approved as "connected to the distribution system" by the board. Nothing in this subsection shall limit the board's authority concerning the review and oversight of facilities, unless such facilities are exempt from such review as a result of having been approved pursuant to subsection q. of this section.

t. (1) No more than 180 days after the date of enactment of P.L.2012, c.24, the board shall, in consultation with the Department of Environmental Protection and the New Jersey Economic Development Authority, and, after notice and opportunity for public comment and public hearing, complete a proceeding to establish a program to provide SRECs to owners of solar electric power generation facility projects certified by the board, in consultation with the Department of Environmental Protection, as being located on a brownfield, on an area of historic fill or on a properly closed sanitary landfill facility, including those owned or operated by an electric public utility and approved pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1). Projects certified under this subsection shall be considered "connected to the distribution system", shall not require such designation by the board, and shall not be subject to board review required pursuant to subsections q. and r. of this section. Notwithstanding the provisions of section 3 of P.L.1999, c.23 (C.48:3-51) or any other law, rule, regulation, or order to the contrary, for projects certified under this subsection, the board shall establish a financial incentive that is designed to supplement the SRECs generated by the facility in order to cover the additional cost of constructing and operating a solar electric power generation facility on a brownfield, on an area of historic fill or on a properly closed sanitary landfill facility. Any financial benefit realized in relation to a project owned or operated by an electric public utility and approved by the board pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1), as a result of the provision of a financial incentive established by the board pursuant to this subsection, shall be credited to ratepayers. The issuance of SRECs for all solar electric power generation facility projects pursuant to this subsection shall be deemed "Board of Public Utilities financial assistance" as provided under section 1 of P.L.2009, c.89 (C.48:2-29.47).

(2) Notwithstanding the provisions of the "Spill Compensation and Control Act," P.L.1976, c.141 (C.58:10-23.11 et seq.) or any other law, rule, regulation, or order to the contrary, the board, in consultation with the Department of Environmental Protection, may find that a person who operates a solar electric power

generation facility project that has commenced operation on or after the effective date of P.L.2012, c.24, which project is certified by the board, in consultation with the Department of Environmental Protection pursuant to paragraph (1) of this subsection, as being located on a brownfield for which a final remediation document has been issued, on an area of historic fill or on a properly closed sanitary landfill facility, which projects shall include, but not be limited to projects located on a brownfield for which a final remediation document has been issued, on an area of historic fill or on a properly closed sanitary landfill facility owned or operated by an electric public utility and approved pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1), or a person who owns property acquired on or after the effective date of P.L.2012, c.24 on which such a solar electric power generation facility project is constructed and operated, shall not be liable for cleanup and removal costs to the Department of Environmental Protection or to any other person for the discharge of a hazardous substance provided that:

(a) the person acquired or leased the real property after the discharge of that hazardous substance at the real property;

(b) the person did not discharge the hazardous substance, is not in any way responsible for the hazardous substance, and is not a successor to the discharger or to any person in any way responsible for the hazardous substance or to anyone liable for cleanup and removal costs pursuant to section 8 of P.L.1976, c.141 (C.58:10-23.11g);

(c) the person, within 30 days after acquisition of the property, gave notice of the discharge to the Department of Environmental Protection in a manner the Department of Environmental Protection prescribes;

(d) the person does not disrupt or change, without prior written permission from the Department of Environmental Protection, any engineering or institutional control that is part of a remedial action for the contaminated site or any landfill closure or post-closure requirement;

(e) the person does not exacerbate the contamination at the property;

(f) the person does not interfere with any necessary remediation of the property;

(g) the person complies with any regulations and any permit the Department of Environmental Protection issues pursuant to section 19 of P.L.2009, c.60 (C.58:10C-19) or paragraph (2) of subsection a. of section 6 of P.L.1970, c.39 (C.13:1E-6);

(h) with respect to an area of historic fill, the person has demonstrated pursuant to a preliminary assessment and site investigation, that hazardous substances have not been discharged; and

(i) with respect to a properly closed sanitary landfill facility, no person who owns or controls the facility receives, has received, or will receive, with respect to such facility, any funds from any post-closure escrow account established pursuant to section 10 of P.L.1981, c.306 (C.13:1E-109) for the closure and monitoring of the facility.

Only the person who is liable to clean up and remove the contamination pursuant to section 8 of P.L.1976, c.141 (C.58:10-23.11g) and who does not have a defense to liability pursuant to subsection d. of that section shall be liable for cleanup and removal costs.

u. No more than 180 days after the date of enactment of P.L.2012, c.24, the board shall complete a proceeding to establish a registration program. The registration program shall require the owners of solar electric power generation facility projects connected to the distribution system to make periodic milestone filings with the board in a manner and at such times as determined by the board to provide full disclosure and transparency regarding the overall level of development and construction activity of those projects Statewide.

v. The issuance of SRECs for all solar electric power generation facility projects pursuant to this section, for projects connected to the distribution system with a capacity of one megawatt or greater, shall be deemed "Board of Public Utilities financial assistance" as provided pursuant to section 1 of P.L.2009, c.89 (C.48:2-29.47).

w. No more than 270 days after the date of enactment of P.L.2012, c.24, the board shall, after notice and opportunity for public comment and public hearing, complete a proceeding to consider whether to establish a program to provide, to owners of solar electric power generation facility projects certified by the board as being three megawatts or greater in capacity and being net metered, including facilities which are owned or operated by an electric public utility and approved by the board pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1), a financial incentive that is designed to supplement the SRECs generated by the facility to further the goal of improving the economic competitiveness of commercial and industrial customers taking power from such projects. If the board determines to establish such a program pursuant to this subsection, the board may establish a financial incentive to provide that the board shall issue one SREC for no less than every 750 kilowatt-hours of solar energy generated by the certified projects. Any financial benefit realized in relation to a project owned or operated by an electric public utility and approved by the board pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1), as a result of the provisions of a financial incentive established by the board pursuant to this subsection, shall be credited to ratepayers.

x. Solar electric power generation facility projects that are located on an existing or proposed commercial, retail, industrial, municipal, professional, recreational, transit, commuter, entertainment complex, multi-use, or mixed-use parking lot with a capacity to park 350 or more vehicles where the area to be utilized for the facility is paved, or an impervious surface may be owned or operated by an electric public utility and may be approved by the board pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1).

11. Section 4 of P.L.2016, c.12 (C.13:8C-46) is amended to read as follows:

C.13:8C-46 "Preserve New Jersey Fund Account."

4. There is established in the General Fund a special account to be known as the "Preserve New Jersey Fund Account."

a. The State Treasurer shall credit to this account:

(1) (a) (i) For State fiscal year 2016, an amount equal to 71 percent of the four percent of the revenue annually derived from the tax imposed pursuant to the "Corporation Business Tax Act (1945)," P.L.1945, c.162 (C.54:10A-1 et seq.), as amended and supplemented, or any other State law of similar effect, dedicated for recreation and conservation, farmland preservation, and historic preservation purposes pursuant to subparagraph (a) of Article VIII, Section II, paragraph 6 of the State Constitution, less $19,972,000 already appropriated and expended for parks management in P.L.2015, c.63; and

(ii) in each State fiscal year 2017 through and including State fiscal year 2019 an amount equal to 71 percent of the four percent of the revenue annually derived from the tax imposed pursuant to the "Corporation Business Tax Act (1945)," P.L.1945, c.162 (C.54:10A-1 et seq.), as amended and supplemented, or any other State law of similar effect, dedicated to recreation and conservation, farmland preservation, and historic preservation purposes pursuant to subparagraph (a) of Article VIII, Section II, paragraph 6 of the State Constitution; and

(b) (i) in each State fiscal year commencing in State fiscal year 2020 and annually thereafter, an amount equal to 78 percent of the six percent of the revenue annually derived from the tax imposed pursuant to the "Corporation Business Tax Act (1945)," P.L.1945, c.162 (C.54:10A-1 et seq.), as amended and supplemented, or any other State law of similar effect, dedicated to recreation and conservation, farmland preservation, and historic preservation purposes pursuant to subparagraph (a) of Article VIII, Section II, paragraph 6 of the State Constitution; and

(ii) any amount received from a solar electric power generation facility pursuant to section 5 of P.L.2021, c.169 (C.48:3-118); and

(2) in each State fiscal year, an amount equal to the amount dedicated pursuant to subparagraph (b) of Article VIII, Section II, paragraph 6 of the State Constitution.

b. In each State fiscal year, the amount credited to the Preserve New Jersey Fund Account shall be appropriated from time to time by the Legislature only for the applicable purposes set forth in Article VIII, Section II, paragraph 6 of the State Constitution and P.L.2016, c.12 (C.13:8C-43 et seq.) for:

(1) providing funding, including loans or grants, for the preservation, including acquisition, development, and stewardship, of lands for recreation and conservation purposes, including lands that protect water supplies and lands that have incurred flood or storm damage or are likely to do so, or that may buffer or protect other properties from flood or storm damage;

(2) providing funding, including loans or grants, for the preservation and stewardship of land for agricultural or horticultural use and production;

(3) providing funding, including loans or grants, for historic preservation; and

(4) paying administrative costs associated with (1) through (3) of this subsection.

c. Nothing in P.L.2016, c.12 (C.13:8C-43 et seq.) shall authorize any State entity to use constitutionally dedicated CBT moneys for the purpose of making any payments relating to any bonds, notes, or other debt obligations, other than those relating to obligations arising from land purchase agreements made with landowners.

d. In each State fiscal year after the enactment of P.L.2021, c.169 (C.48:3-114 et al.), the State Treasurer shall notify, in writing, the chairperson of the Garden State Preservation Trust of the amount received from a solar electric power generation facility pursuant to section 5 of P.L.2021, c.169 (C.48:3-118) and credited to the Preserve New Jersey Fund Account pursuant to subsubparagraph (ii) of subparagraph (b) of paragraph (1) of subsection a. of this section to be used for the purposes of subsection b. of this section.

12. This act shall take effect immediately.

Approved July 9, 2021.

White Paper on Climate Change Solutions for the Pinelands of New Jersey

Provided to: New Jersey Pinelands Commission
Provided by: Pinelands Preservation Alliance
Contact: Jaclyn Rhoads, Ph.D., Assistant Executive Director
jaclyn@pinelandsalliance.org

March 2021

Summary

The Pinelands Commission is responsible for protecting the natural resources within the 1.1 million acres of the Pinelands National Reserve. The threats of development to water quality, water supply, plant and animal habitat still exist, but a potentially greater threat looms with climate change. Although more difficult to control and mitigate, it is still within the purview of the Pinelands Commission body to address.

Pinelands Preservation Alliance (PPA) created this white paper to provide suggestions on next steps for addressing climate change. Many of the suggestions are changes that have been pending with the Commission for years such as the recommendations from the Kirkwood Cohansey Aquifer study. Pinelands Preservation Alliance wants to help the Pinelands survive this change, and developed this white paper to document the impacts, potential changes, and opportunities. PPA would like to offer its assistance in further evaluating and implementing these changes.

A summary of our recommendations are as follows:

1. Adopt changes to reflect recommendations in KC Aquifer study.
2. Update stormwater requirements to include redevelopment, monitoring for at least five years, and non-structural requirements.
3. Assist municipalities in revising and adopting Climate Change and Hazard Vulnerability Assessments.
4. Adopt Pinelands Development Credit changes to incentivize more compact and mixed-use development.
5. Update list of Endangered and Threatened Plant Species to include protection of *all* listed plant species of concern.
6. Request DEP implementation of Prescribed Burn Bill.
7. Incorporate Coastal Area Facility Review Act (CAFRA) areas under Pinelands Commission jurisdiction.
8. Adopt no net tree loss.
9. Review Ecological Integrity Assessment and DEP mapping to determine if management area changes are needed to accommodate migration.

Introduction

Earth's climate is the average of all the world's regional climates. Therefore, climate change is defined as a change in the typical or average weather of a region or city as defined by NASA. A change in the climate could be a change in a region's average annual rainfall or a city's average temperature for a given month or season.

According to New Jersey's State Climatologist, New Jersey's climate has changed. New Jersey Department of Environmental Protection (NJ DEP) created a webpage specific to climate change indicators, impacts, and solutions at https://www.nj.gov/dep/climatechange/data.html. The DEP states on this page that:

> During the last century, New Jersey has experienced rising temperatures, increased rainfall, more frequent extreme weather events and rising sea levels. These changes are the result of increasing greenhouse gas emissions in the atmosphere due to human activities such as the burning of fossil fuels (coal, oil, and natural gas), agriculture, and land clearing.
>
> - New Jersey's average annual temperatures have increased by 2.2°F since 1900.
> - Since 1980 New Jersey has begun to experience more rapid warming, with five of the warmest years occurring after 1998.
> - 2012 was the warmest year on record for New Jersey, with an average temperature that was 2.8°F above the 1981-2010 mean.

Globally, sea level rose roughly 8 inches over the past 100 years. Along the coast of New Jersey, sea level has risen an additional 4 to 8 inches during the past 100 years due to subsidence (a sinking of the ground surface due to natural geological processes and/or human influences like removal of groundwater for human use) in the mid-Atlantic region. Total relative sea level rise (the combination of rising seas and subsidence) in New Jersey over the past 100 years is therefore approximately 12 to 16 inches.[1]

In addition, the U.S. National Climate Assessment notes that the Northeast United States has already seen "a greater increase in extreme precipitation than any other region" with a roughly 70 percent increase in intense storms between 1958 and 2010, defined as the heaviest 1 percent of precipitation events.[2] Global Circulation Models (GCMs) are used to assess the potential for climate change globally and in major regions of the world. On average, GCMs indicate that our region of the nation may experience a further increase in the intensity of storms.[3]

---

[1] U.S. Climate Change Science Program (USCCSP) Report. http://downloads.climatescience.gov/sap/usp/usp-prd-all09.pdf

[2] Horton, R., G. Yohe, W. Easterling, R. Kates, M. Ruth, E. Sussman, A. Whelchel, D. Wolfe, and F. Lipschultz. 2014: Ch. 16: Northeast. Climate Change Impacts in the United States: The Third National Climate Assessment, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 371-395. doi:10.7930/J0SF2T3P. Available from: http://nca2014.globalchange.gov/report/regions/northeast

[3] https://njadapt.rutgers.edu/docman-lister/conference-materials/166-climate-change-adaptation-in-water-supply-sector-final-1/file

On June 30, 2020 the NJ DEP produced a "Scientific Report on Climate Change". Key points that are relevant to the Pinelands include:

1. "Water supplies will be stressed from the increase in the growing season and extreme temperatures expected due to climate change."
2. "Surface and groundwater quality will be impaired as increased nutrients and contaminants enter waters due to runoff from more intense rain events."
3. "The persistence of Southern pine beetle in New Jersey represents an early example of the destruction of invasive pests that can occur due to climate change impacts."
4. "Wildfire seasons could be lengthened and the frequency of large fires increased due to the hot, dry periods that will result from increased temperatures."
5. "Atlantic white cedar, a globally rare species, is expected to lose habitat to New Jersey because of rising sea levels."
6. "Some vernal ponds may even disappear due to drought."

What does this all mean for the Pinelands? How can the Pinelands Commission address this threat?

The Pinelands has experienced changes and will continue to do so with increases in temperature, precipitation, wildfire risk, flooding, and invasive pests. The Pinelands Commission can play a role to help mitigate future climate change and foster opportunities for adaptation. The Coastal Flood Exposure Mapper[4] is a great tool to analyze flooding risk in New Jersey. The Mapper, created by the National Oceanic and Atmospheric Administration, color codes regions according to the number of hazards that an area may experience now and into the future. Yellow indicates the least number of hazards, and the dark red indicates an area that can experience the most hazards. These hazards include high tide flooding, sea level rise anywhere from one to three feet above mean higher high water[5], and storm surge categories 1, 2 and 3. In addition, each of these highlighted areas are designated a FEMA[6] zone which is defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood[7].

Screen shots are shown below that provide examples of high hazard areas in the Pinelands. Many of the areas in red include a hazard of 7 or greater which are all the hazards listed above. Some of the locations included in these zones are Bass River, Hammonton, Port Republic, Washington Township, Mullica Township, Mays Landing, Tuckahoe, and Galloway.

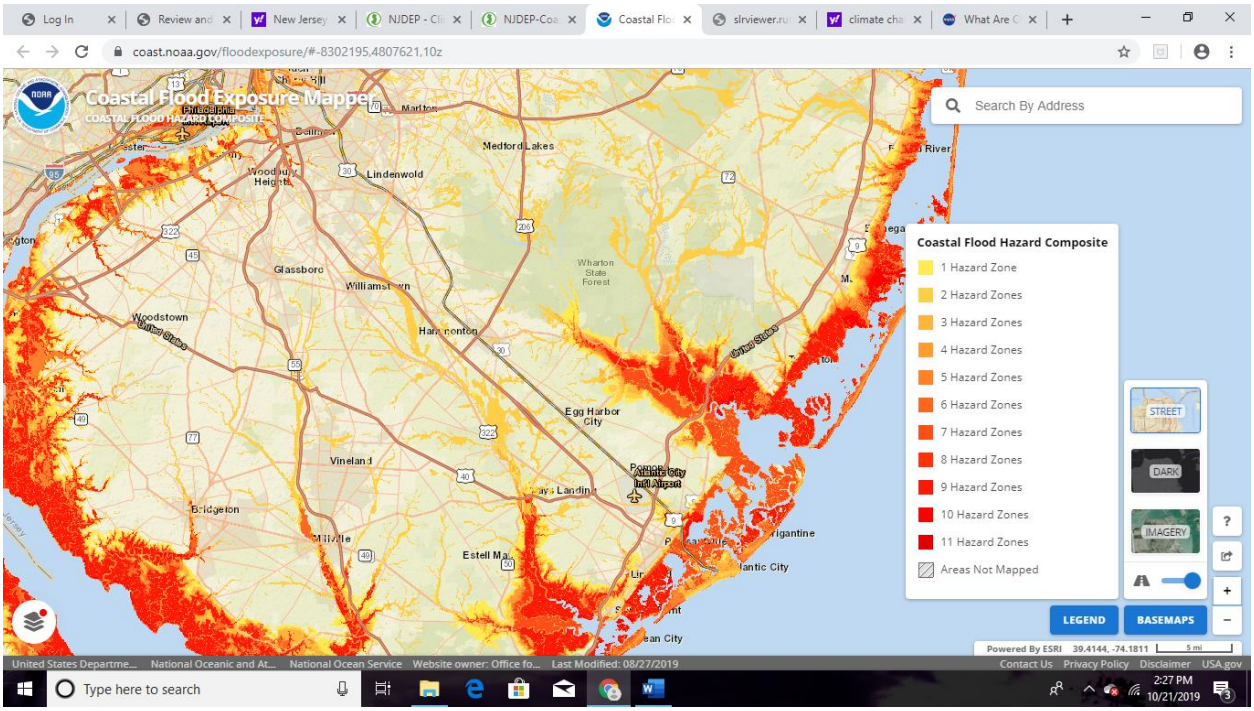
---

[4] https://www.coast.noaa.gov/floodexposure/#-8302195,4807621,10z

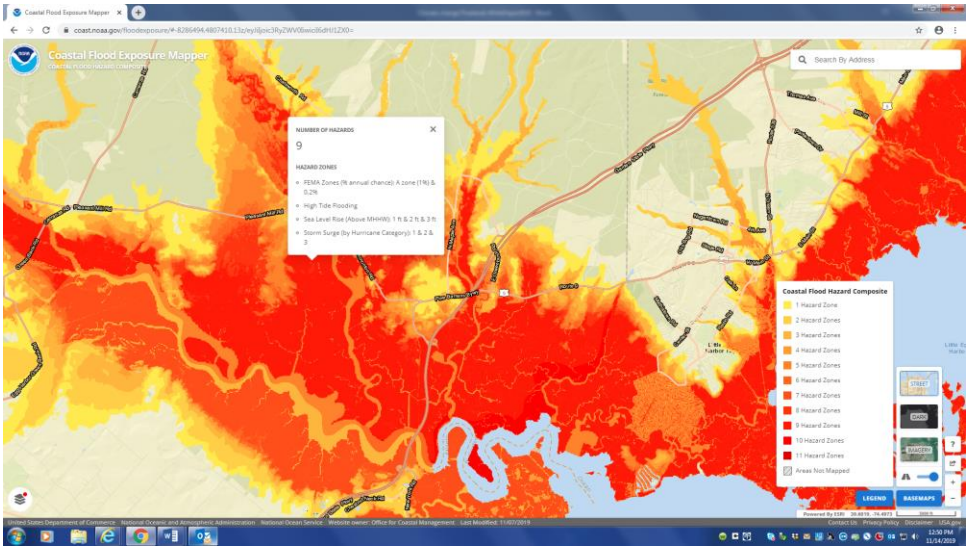
[5] The mean higher high water (**MHHW**), is the average height of the highest tide recorded at a tide station each day during the recording period. It is used, among other things as a datum from which to measure the navigational clearance, or air draft, under bridges.

[6] https://www.floodsmart.gov/why/all-about-flood-maps

[7] https://www.fema.gov/flood-zones



Besides the direct risk to people and property during flood events, water supply and quality are impacted because higher flows increase sediment, nutrient, and contaminant loads in surface waters used by downstream water users, and ecosystems. Mineral weathering products, like calcium, magnesium, sodium, and silicon and nitrogen loads, have been increasing with higher streamflows. Changing land cover, flood frequencies, and flood magnitudes are expected to increase mobilization of sediments in large river basins. [8] Pinelands Commission actions can't stop the flooding, but changes made to the Comprehensive Management Plan (CMP) can help to adapt to and/or limit additional changes.



[8] https://nca2014.globalchange.gov/report/sectors/water/content/water-quality-risks-lakes-and-rivers

1. Adopt Kirkwood-Cohansey Aquifer Study Changes

The Pinelands Commission has placed a high value on the Kirkwood-Cohansey aquifer system since the Commission's inception. The Pinelands CMP permits diversions from the Kirkwood-Cohansey system only for agriculture, or where there is no alternative source and it is demonstrated that no adverse ecological impact will occur as a result of the diversion. When water is obtained from the Kirkwood-Cohansey, the Commission has also acted to control transfers of water between watersheds from water supply distribution and/or centralized wastewater systems. In addition, State legislation (N.J.S.A. 58:1A-7.1) prohibits the exportation of surface and groundwater beyond ten miles from the boundary of the Pinelands National Reserve.

The Commission's concern with the Kirkwood-Cohansey system is amply justified. Since this shallow aquifer provides from 80 to 95 percent of baseflow to streams and associated wetlands within the Pinelands, removal and distribution of water from this aquifer is of particular concern so as not to reduce streamflow and negatively impact wetlands and aquatic species. As noted above, climate change increases the risk of drought and excessive water flow during major storm events. Several findings and episodes below illustrate the vulnerability of the Kirkwood-Cohansey and associated habitats to excessive water withdrawals or poorly located wells which gives greater urgency to implementing ways to reduce this vulnerability.

- In February 1987, the Camden County Municipal Utilities Authority prepared a water quality management plan for Chesilhurst Borough, Waterford Township, and Winslow Township. The proposal called for the transfer of sewage from the Regional Growth Areas of these Pinelands townships to the Delaware Basin. It was determined that if the Kirkwood-Cohansey aquifer was used for water supply, the interbasin transfer of all of the wastewater to the Delaware River Basin would impact the flow of streams entering Wharton State Forest. [9]

- The Pinelands Commission found that the use of the Kirkwood-Cohansey aquifer to supply water for projected buildout of the Regional Growth Areas in Hamilton Township and portions of Galloway Township would significantly deplete stream flows, if wastewater was exported out of the area via sewers.[10]

- In Berlin Township, Camden County, approval for a municipal water supply well was rescinded when it was determined that withdrawals from the Kirkwood-Cohansey was impacting Swamp Pink, a plant that is federally listed as threatened pursuant to the Endangered Species Act.

- During 2003, a private water company's request for a 20 percent increase in allocation from the Kirkwood-Cohansey aquifer was thwarted when it was determined that there would be a loss of stream flow, and associated impacts to

[9] Pinelands Commission. 1988. An assessment of sewer and water supply alternatives for Pinelands growth areas in the Mullica River Basin, Camden County. Pinelands Commission, New Lisbon, New Jersey, USA.
[10] Schock, D. A. 1990. An assessment of the hydrologic impact resulting from development in regional growth areas in Hamilton Township, Atlantic County. Pinelands Commission, New Lisbon, New Jersey, USA.

> Knieskern's beaked-rush, a Federal and New Jersey listed threatened wetlands plant. Seeing no alternative, the water company installed a new well to a depth of 1225 feet in a deeper aquifer.

In 2001, the State provided $5.5 million in funding through the "Gibson Bill," N.J.P.L. 2001 c. 165, to study the aquifer, and the federal government subsequently provided additional funds to the project. The study came about in response to two growing concerns: the increasing demand for water to serve growth in South Jersey, and the recognition that while the Kirkwood-Cohansey is a readily available source to help meet this demand, it is also critical to the surface ecology of the region.

Based on the numerous reports completed to date as part of the study and the findings from the Pinelands Science-Policy Forum on the Kirkwood-Cohansey Aquifer, Pinelands Preservation Alliance (PPA) recommends specific science-based amendments to the CMP to protect the Pinelands environment. PPA recommends the following:

1. ***Rules for Controlling Impacts of New or Increased Allocations*:**
   - For potential impacts to streams and rivers: Institute ecologically based thresholds for new or increased allocations from the Kirkwood-Cohansey Aquifer by using low flow margin, percent of 7Q10, or percent of drought of record, but with the ecological passing flow as a floor or limit in all cases.
   - For potential impacts on wetlands: Require species-specific and Pinelands pond-specific criteria for judging acceptable versus unacceptable impacts of withdrawals on wetlands.
   - Require quantifiable water conservation measures in the same sub-watershed to offset expected impacts of new and increased withdrawals.
   - Incentivize all water conservation measures as part of permitting for new or increased allocations.
   - Set a regulatory trigger that suspends new or increased allocations, or reduces existing allocation limits, in a watershed when a trend of increasingly severe impacts of current withdrawals shows the modeling on which permits are based is inaccurate.
   - Require recipients of allocations to monitor and report streamflow and water table changes in the future.
   - Permit no reductions of existing wetlands for applications for a new or increased allocation from the KC aquifer.
   - Require all applicants to show that other sources are not available before using the KC aquifer.

2. ***Water Supply Planning*:**
   - Set targets for total withdrawals from the aquifer in each basin/sub-basin and provide suggested water supply alternatives.
   - Using available information from the New Jersey Geological Survey regarding water withdrawals, uses, transfers, and discharges, set limits on total withdrawals from the aquifer in each basin and identify required water supply alternatives.

- Design plans to maintain current ecological functions and restore natural flow and water levels where existing withdrawals have already reduced flows or water levels.
- Set explicit criteria for determining when each potential alternative source will be considered available, desirable and required for consideration by purveyors.
- Incorporate water supply alternatives into targets, limits and options for those basins where the aquifer is already stressed.
- Incorporate impacts to and withdrawals from connected aquifers, such as the Atlantic City 800-foot Sands.

2. Adopt Changes to the Stormwater Management Rules

According to a November 2010 Report by the New Hampshire Stormwater Study Commission, "Through its work, the Commission found that stormwater is recognized as one of the leading causes of water pollution in the United States." States cannot meet their requirements under the Clean Water Act unless aggressive measure are taken to address stormwater. The report further adds, "While the monetary cost of managing stormwater is high, the potential cost of inaction is even higher. Without new programs, new revenue sources, and a significant shift of thinking, the state will likely experience even more extensive flooding and degradation of water resources."[11] We applaud the changes adopted and proposed so far by the Pinelands Commission and recommend additional changes for incorporation.

In particular, PPA suggests the following:

1. Incorporate non-structural stormwater requirements into site design. PPA agrees that the former stormwater requirements needed improvement, but removal of strategies that are absolutely necessary for environmental protection and stormwater reduction does not make sense. In addition, placing these requirements in only the stormwater management plan by municipalities creates unnecessary conflict and confusion for developers.

   When NJ Department of Environmental Protection removed the non-structural stormwater requirements, it created the possibility that developers could clear out vegetation and trees and place rain gardens or other "green" infrastructure and receive approval unless towns have ordinances that specifically limit clearance or provide tree protection. This process is detrimental to water quality, habitat, and water supply.

   The Pinelands Commission should adopt and clarify non-structural requirements. For example, Strategy 1 of the non-structural stormwater requirements[12], "Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss." The rules should require identification of riparian buffers, corridors, highly

[11] New Hampshire House Bill 1295 Chapter 71 Laws of 2008 Stormwater Study Commission Final Report November 2010.

[12] State of New Jersey, Department of Environmental Protection. (2004). *New Jersey Stormwater Best Management Practices Manual*. Retrieved from https://www.njstormwater.org/bmp_manual/NJ_SWBMP_2%20print.pdf

erodible soils, and wetlands and require no disturbance. Another option is to disconnect anything over 10% of impervious cover to better define Strategy 2.

2. All new stormwater management/green infrastructure should require 5 years of "monitoring" to guarantee the performance of the systems. Monitoring doesn't necessarily mean setting up a test well, but making sure that it is draining or functioning as designed. There should also be a bonding requirement so that there is a financial guarantee that the systems will work long term and that there is money available for the municipalities to use to fix failing systems. If the systems fail by year 4, the guarantee period should resume again to make sure there is a time frame of 3 to 5 years of proper functioning before returning the bond funds.

3. Redevelopment projects should be required to meet the stormwater requirements. New Jersey will never improve its water quality unless we address the problems of the past.

3. Incorporate changes to Pinelands Development Credits

As currently structured, the Pinelands CMP's transferable development rights program requires developers to purchase PDCs as a condition of building at *higher* densities. This structure provides a financial incentive to build at lower density and provides no incentive to adopt any other beneficial design feature in a development plan. Thus, the current structure encourages exactly the kind of sprawl development that most harms environmental, scenic and cultural values. The current system has also been slow to generate demand for PDCs in some growth areas, as builders have stuck with lower density subdivision designs.

PPA supports amending the PDC rules to reverse these incentives and to make the PDC system a positive incentive to build in a more environmentally and socially beneficial fashion. The Commission has already developed an extensive amendment to the PDC program that was fully reviewed by the Commissioners and reviewed by the public. PPA fully supports moving forward with these previously identified changes.

In general terms, we support the program that a developer:

a. must buy PDCs to build at *low* density or with a reduced wetlands buffer as defined by the buffer delineation model;
b. need not buy PDCs, or must buy a much lower number of PDCs, if developer builds using design features such as the following:
    - retain a 300-foot buffer to wetlands
    - manage stormwater using only non-structural stormwater strategies
    - have multi-use structures

We also hope that the original amendment for applying the PDC program to include non-residential (essentially commercial) structures to create incentives for reducing impervious coverage will still be included for consideration in plan review. This change would only apply in a small number of cases.

4. Offer Assistance to NJ Department of Environmental Protection to Review and Provide Guidance to Municipalities for Completing Climate Change-Related Hazard Vulnerability Assessments

A climate change-related hazard vulnerability assessment is meant to identify risks, vulnerabilities, and impact to communities, provide a rationale for allocating resources, and guide municipalities in considering climate change impacts on development. Senate Bill 2607 was signed into law February 2021 and requires municipalities to include in the land use element of their master plans a climate change-related hazard vulnerability assessment, which includes but is not limited to:

- Environmental effects and weather events associated with climate change
- Mitigation of reasonably anticipated natural hazards
- Current and future vulnerabilities in the municipality associated with climate change
- Build-out analyses of future development in the municipality and an assessment of the vulnerabilities related to that development
- Critical infrastructure for evacuation and life sustainability during a natural disaster
- Risk reduction strategies and design standards
- The most recent natural hazard projections and best available science provided by NJDEP.

The Pinelands Commission should offer assistance to NJ DEP and municipalities to review these assessments. First, the Pinelands environment is unique and so will face distinct challenges from climate change. Pinelands Commission staff have the expertise to keep the region's unique characteristics and vulnerabilities in mind when defining what areas municipalities should address in a hazard vulnerability assessment. Second, because Pinelands municipalities must submit proposed master plan changes to the Commission, the municipalities will have to ensure their assessments conform to the CMP and the Commission can thus exercise a level of oversight of the assessments.

An additional option is for the Pinelands Commission to spearhead a grant program, with funds perhaps coming from multiple sources. Grants could be offered to incentivize municipalities to write climate change-related hazard vulnerability assessments, and implement redesigns and retrofits of municipal infrastructure to address their respective vulnerabilities. By way of example, the Commonwealth of Massachusetts created a Climate Municipal Vulnerability Program, wherein municipalities can receive support to first identify their climate hazards, and then implement actions to address them. The program is divided into two components: planning grants and action grants. As part of the planning process in identifying climate hazards, the municipality must go through a community-driven process that prioritizes the voices of all affected communities and identifies environmental justice populations. Once planning is completed, municipalities may then be eligible to apply for action grants to carry out various works, including green infrastructure, improved stormwater management, and nature-based solutions for public health. To date, an overwhelming majority of municipalities in

Massachusetts have participated in the planning phase, and nearly half have embarked on action grant projects.[13]

5. Adopt List of Plant Species of Concern

The overriding purpose of the Pinelands Protection Act and the CMP is to conserve the Pinelands' natural resources. Both the Act and the CMP recognize that conservation of characteristic Pinelands resources includes protection of endangered and threatened flora and fauna. The CMP recognizes this policy specifically through its prohibitions on development at 7:50-6.27, "Development prohibited in the vicinity of threatened or endangered plants." This section reads, "No development shall be carried out by any person unless it is designed to avoid irreversible adverse impacts on the survival of any local populations of those plants designated by the Department of Environmental Protection as endangered plant species pursuant to N.J.A.C 7:5C-5.1 as well as the following plants, which are hereby found and declared to be threatened or endangered plants of the Pinelands" and is followed by a list of 54 plant species. The background story of how these protections came to be is too complex to briefly summarize here, but the main point we would like to make is that without protecting all of the plant species occurring in the Pinelands which are tracked by the New Jersey Department of Environmental Protection's Natural Heritage Program and therefore classified by the Natural Heritage Program as "endangered" plant species and plant "species of concern," the CMP is not providing the environmental protections it was enacted to provide, and climate change is going to make conditions for these species worse. Unless the Pinelands Commission take immediate action to protect them now, the Pinelands can lose more species than expected.

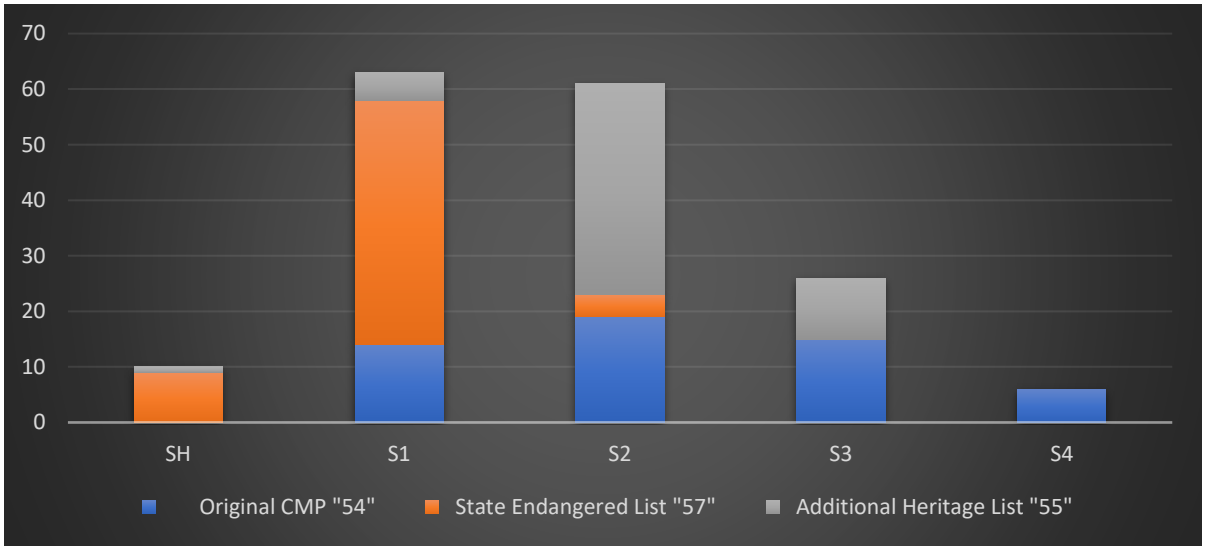
Currently, the CMP does not protect all threatened and endangered species of plants, because the list of species in the CMP omits a number of Pinelands species that the State of New Jersey recognizes as threatened. Though the Natural Heritage Program uses the phrase "species of concern" rather than the word "threatened," these species of concern are indeed understood to be threatened. The Federal Endangered Species Act defines "threatened species" as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." As defined in New Jersey's Endangered Plant Species Program rules, "Plant Species of Concern" serves as the official "working list for transition of species to and from the Endangered Plant Species List," and thus fits the federal model of "threatened" on which the CMP's use of the term is based. All Plant Species of Concern at issue in the Pinelands are ranked S1 (critically imperiled), S2 (imperiled), or S3 (rare and may soon become imperiled if current trends continue), with a small number designated SX (determined or presumed to be extirpated) or SH (historically present but no extant occurrences known). These rankings clearly fall under the definition of "threatened" and these species should therefore be protected under 7:50-6.27 which prohibits development "in the vicinity of threatened or endangered plants."

We propose that section 7:50-6.27 be amended to read, "No development shall be carried out by any person unless it is designed to avoid irreversible adverse impacts on the survival of any local populations of those plants listed by the New Jersey Natural Heritage Program as 'Endangered

[13] https://www.mass.gov/doc/mvp-webinar-recording-fy21-funding-round/download

Plant Species and Plant Species of Concern'." Doing so would bring the Pinelands protections into alignment with the Highlands protection standards, which call for protection of *all* listed plant species of concern. This is the only sensible approach from a conservation perspective. On the following chart:

- The **Gray** bars depict the 54 plant species protected by the original Pinelands Comprehensive Management Plan.
- The **Orange** bars depict 57 species listed on the current State of NJ Endangered Species Plant List. These species are protected as a result of the adoption of the Endangered Species List by the Pinelands Commission. About 19 of these 57 species may not actually occur in the jurisdictional Pinelands, as there are no recent records, or they generally would be expected to occur outside of the boundaries of the Pinelands CMP.
- The **Blue** bars depict 55 unprotected rare species (Heritage Ranks S1, S2, and S3) that do occur within the Pinelands, for which the NJ Heritage Program has accumulated more accurate information than was available 35 years ago as the original CMP list was being formulated.
    - **SH** = State Historic (no extant populations currently known)
    - **S1** = between 1 and 5 populations known
    - **S2** = between 6 and 20 populations known
    - **S3** = between 21 and 50 populations known
    - **S4** = more than 50 populations known.



6. Request DEP implementation of Prescribed Burn Bill

The New Jersey Pine Barrens is a fire dependent ecosystem where frequent fires create a mosaic of varying successional stages across the landscape[14]. The natural form of disturbance is important in maintaining the natural communities of fire adapted species we have come to consider characteristic of this region. Periodic burns can reduce shrub cover, maintain an open canopy, and delay the encroachment of late successional species[15]. The New Jersey Forest Fire Service for the last 60+ years has employed a wildfire suppression program and has conducted cold weather prescribed burns to control fuel loads[16]. Although prescribed burns are effective at reducing fuel load[17], their intensity and fire return intervals may deviate from historical cycles, which may impact the demography of early-successional, fire-adapted species[18]. Changes to our natural fire regimes have been documented for decades. Soon after the establishment of the Pinelands Protection Act, ecologists found significant changes in the scale and frequency of fires when compared to pre-1940 levels. While they found the number of wildfires from pre-1940 and 1940-1980 to be approximately the same, total area burned per year decreased significantly (54,000 acres per year to 19,000 acres per year) as well as the frequency of any one location in the pine barrens burning in a given year (every 20 years to every 65 years). This change in fire regime has led to measurable changes in forest composition, primarily near developed areas of the Pinelands. Researchers have found that fire frequency decreases near developed land and upland oak species cover increases in these same areas[19]. The change in disturbance regimes has led to a change in forest composition from the characteristic pine forest to an oak dominated forest.

Carbon Sequestration

Increasing carbon sequestration through land management is becoming an increasingly studied strategy particularly for states such as New Jersey that are looking to address and mitigate the impacts of climate change. Wildfires and prescribed burns produce a net release of carbon, but a pair of studies from the US forest service show that even with these forms of disturbance, the forests of the New Jersey Pine Barrens act as a carbon sink. Scheller et al. found that the Pine Barrens of New Jersey are expected to continue to be a carbon sink over the next 100 years in models that reflect current burning practices, an increase in prescribed burns and even a longer response time to wildfire.[20] More recent studies have shown that all carbon released during a fire is recovered within 2-3 years in Pine Barren systems[21]. These studies highlight that robust Pine

[14] McCormick, J., and R.T.T. Forman. 1998. Introduction: Location and boundaries of the New Jersey Pine Barrens. In: Forman, R. T. T. (ed.), Pine Barrens: Ecosystem and Landscape. Rutgers University Press, New Brunswick, New Jersey

[15] Forman, R.T.T. 1998. The Pine Barrens of New Jersey: An ecological mosaic.

[16] Buell, M.F., and J.E. Cantlon. 1953. Effects of Prescribed Burning on Ground Cover in the New Jersey Pine Region. Ecology 34:520-528

[17] Clark, D.L., and M.V. Wilson. 2001. Fire, Mowing and Hand-Removal of Woody Species in Restoring a Native Wetland Prairie in the Willamette Valley of Oregon. Wetlands 21:135-144

[18] Wilcove, D.S., *D.* Rothstein, *J.* Dubow, *A.* Phillips, *and E.* Losos. 1998. Quantifying threats to imperiled species in the United States. BioScience 48:607–615

[19] La Puma I.P., R.G. Lathrop and N.S. Keuler. 2013. A large-scale fire suppression edge-effect on forest composition in the New Jersey Pinelands. Landscape Ecology 28: 1815-1827

[20] Scheller R.M., S. Van Tuyl, K.L. Clark, J. Hom and I. La Puma. 2011. Carbon sequestration in the New Jersey Pine Barrens under different scenarios of fire management. Ecosystems 14: 987-1004

[21] Clark, K.I., N. Skowronski and M. Gallagher. 2015. Fire Management and Carbon Sequestration in Pine Barren Forests. Journal of Sustainable Forestry 34: 125-146

Barren systems not only thrive on fire but the resulting regeneration captures enough carbon to more than offset the burns, and to even function as a carbon sink.

Prescribed Burning

The duration of the wildfire season in New Jersey may increase as the spring season begins earlier in the year and the summer season is expected to be hotter and last longer. In addition, the winter season when the majority of prescribed burns are conducted is expected to become shorter and wetter[22]. This has the potential to limit the number of days conducive for prescribed burning. By supporting the implementation of the Prescribed Burn law pass in 2019, the Commission can support the expansion of burning for both safety and ecological reasons. Introducing mixed-severity fires can also be a usefully tool that is found to be more effective than traditional low-severity burns in driving structural complexity and post fire diversity[23]. Implementing the Prescribed Burn law may then have the effect of giving burn managers greater flexibility in their burning season but also the leverage needed to conduct burns that can promote the ecological functions we often associate with natural disturbance regimes.

7. Incorporate CAFRA areas under Pinelands Commission jurisdiction.

In considering the unprecedented scale and imminent threat of climate change, it is crucial to consider the Pinelands National Reserve (PNR) holistically, including the land and waters to which the Coastal Area Facility Review Act (CAFRA) applies. N.J.A.C. 7:7-9.42(d) recognizes the direct connection between coastal ecosystems and inland resources: "[b]ecause the living marine resources in the bays and estuaries of the coastal zone depend on the flow of freshwater from the pinelands, changes to the quality and quantity of the pinelands water resource caused by pollution and contamination would have a significant impact on coastal resources." The original PNR boundary was established to protect specific ecosystems, vulnerable species and their habitats, and vulnerable waters, all of which are now facing increased risk and should all be subject to consistent relief precisely because of their interconnectedness.

The Coastal Zone Management Rules and 1988 Memorandum of Agreement (MOA) between the Pinelands Commission and NJ Department of Environmental Protection (DEP) make an attempt at that consistency in the management of the overlapped area, which was clearly the intent of the Pinelands Protection Act. Section 13:18A-23 states, "[T]he Department of Environmental Protection shall, in consultation with the commission…, review the environmental design for the coastal area as it affects the planning and management of the development and use of any land in the coastal area which is also within the boundaries of the Pinelands National Reserve, make any necessary revisions to such environmental design as may be ***necessary in order to effectuate the purposes of this act and the Federal Act***…" (emphasis

[22] Runkle, J., K. Kunkel, S. Champion, R. Frankson, B. Stewart, and W. Sweet. 2017. New Jersey State Climate Summary. *NOAA Technical Report NESDIS 149-NJ*, 4 pp

[23] Roberts, C.P., V.M. Donovan, S.M. Nodskov, E.B.Keele, C.R. Allen, D.A. Wedin, and D. Twidwell. 2020. Fire legacies, heterogeneity, and the importance of mixed-severity fire in ponderosa pine savannas. Fire Ecology and Management 459: 117853

added). The Coastal Zone Management Rules themselves state, "Coastal development shall be consistent with the intent, policies and objectives of the National Parks and Recreation Act of 1978, P.L. 95-625, Section 502, creating the Pinelands National Reserve, and the State Pinelands Protection Act of 1979 (N.J.S.A. 13:18A-1 et seq.)" The 1988 MOA is even more explicit in mandating the application of Pinelands regulations to sections of the PNR within the Coastal Areas in its second point of agreement, which states, "The Department of Environmental Protection, Division of Coastal Resources (DEP-DCR), agrees to implement the Pinelands Comprehensive Management Plan within the coastal zone".

Despite this clarity, a lack of coordination between the Pinelands Commission and DEP in the overlapped areas have led to approval of projects held to lesser standards than the rest of the PNR. Some project applications are not sent by the DEP to the Commission for review, and when they are, Commission recommendations are only taken as advisory. Given that coastal areas are at the highest risk for climate impacts, those very areas should be held to the strictest standards allowable by the CMP ***and*** the CAFRA.

Since the State of New Jersey has adopted both the CMP and CAFRA regulations, resources within the overlapped area should be evaluated in accordance with the standards of both. In the event of different parameters, the strictest should be applied, therefore providing the maximum level of protection to these most vulnerable areas.

Currently, point 4 of the 1988 MOA states that "[b]oth agencies recognize that each agency has the independent authority to approve or deny applications pursuant to its own regulations." This language should be amended to mandate that both sets of regulations must be upheld, and to remove any question of which standards should be applied. It must be those which provide the greatest level of protections.

8. Adopt No Net Tree Loss

Requiring new developments to limit tree canopy removal and/or compensate for necessary tree removal would help reduce energy consumption, preserve tree function as a carbon sink, improve air quality, and generally contribute to maintaining Pinelands characteristics. This requirement could be implemented in a number of ways through either incentivizing canopy preservation and/or penalizing canopy removal. The CMP already requires certain landscaping and vegetation standards under N.J.A.C. 7:50-6.21, and amendments could be made to this section.

New Jersey already has a requirement for state projects. The New Jersey No Net Loss (NNL) Compensatory Reforestation Act, N.J.S.A. 13:1L-14.1 et. seq., 'the Act', requires that a State entity submit a compensatory reforestation plan to the NJ Department of Environmental Protection, New Jersey Forest Service (NJFS), for each project that results in the deforestation of one-half acre (0.5 ac/21,780 square feet) or more on land the State entity owns or maintains. The compensatory reforestation plan shall have a goal of no net loss of existing forested area. Each plan is subject to review and comment by the NJ Community Forestry Council prior to approval

by NJFS. The law requires that the State entity obtain NJFS approval of the compensatory reforestation plan prior to commencing the project.

The Pinelands Commission can adopt a similar provision for all development that result in deforestation of one-half acre or more. Extensive guidance for determining reforestation requirements is provided in New Jersey's program guidelines found here - https://www.state.nj.us/dep/parksandforests/forest/community/pdf_files/NNL_Program_Guidelines.pdf

9. Review EIA and DEP mapping to determine if management area changes are needed to accommodate migration

The following maps have been generated using the NJ Conservation Blueprint Mapper.[24] The Conservation Blueprint is an interactive mapping tool that empowers users to identify land best suited for conservation. A consortium of non-profit organizations, universities, state and local agencies oversaw the development of this tool and continue to oversee updates to the maps that are available to the public.

Included below is a reference called Connecting Habitats Across New Jersey (CHANJ) Habitat Stepping Stones. CHANJ is an effort to make our landscape more permeable for terrestrial wildlife by identifying key areas and actions needed to preserve and restore habitat connectivity across the state. This initiative is designed to help 1) prioritize land protection, 2) inform habitat restoration and management, and 3) guide mitigation of barrier effects on wildlife and habitats. CHANJ offers tools and resources to guide these goals forward in a strategic way and help target local, regional, and state planning efforts. The tools also help land use, conservation, and transportation planners to be more proactive and collaborative, which reduces conflict and saves time and money. The success of CHANJ depends on partnerships to implement its guidance.[25]

Areas of currently unpreserved lands are displayed in red, orange, and pink, and CHANJ Habitat Stepping Stones are identified in brown. Areas displayed are within the Pinelands, but the Pinelands reference layer was removed to make the maps more legible. We are recommending that the Pinelands Commission target lands for preservation or evaluate potential changes to management areas for the lands that are:

(1) Connected to wildlife habitat cores and corridors as identified by the NJDEP CHANJ maps
(2) Overlap with CHANJ Stepping Stones
(3) Are located within Pinelands Regional Growth or Rural Development Areas.

PPA is happy to share the maps as generated below at the request of the Pinelands Commission staff, but John Hasse with Rowan University is the expert for NJ Conservation Blueprint Mapper. He offered to provide an overview to the Pinelands Commission, and PPA highly encourages the Commission to take him up on his offer.

[24] www.njmap2.com

[25] https://www.njfishandwildlife.com/ensp/chanj_guidance.pdf

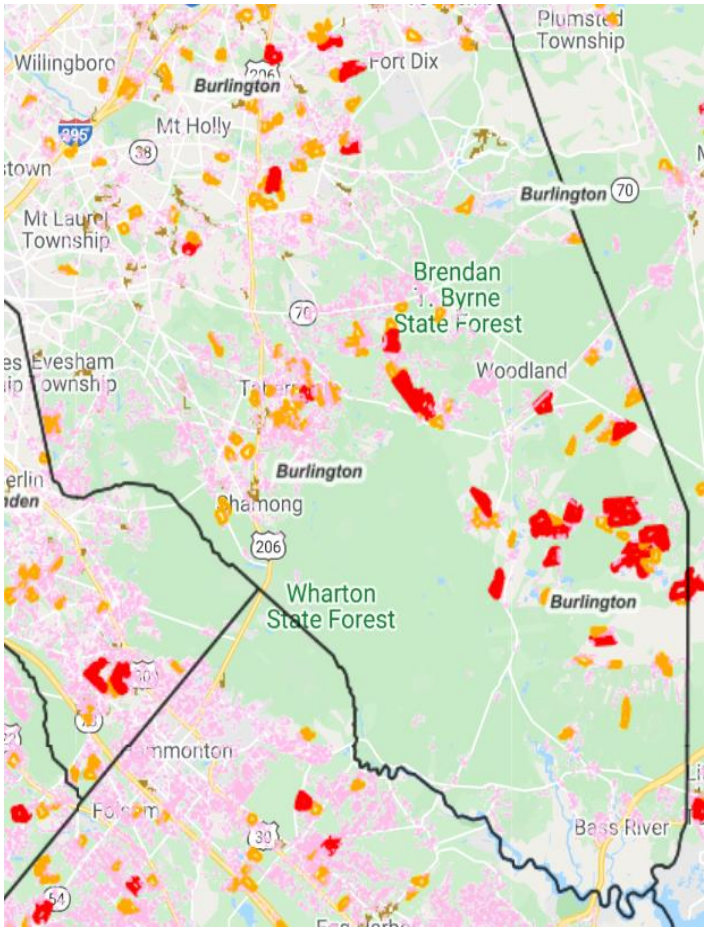


Figure 1 Unpreserved land in Burlington County (Red, Pink, Orange) and Stepping Stone habitat areas displayed in brown.

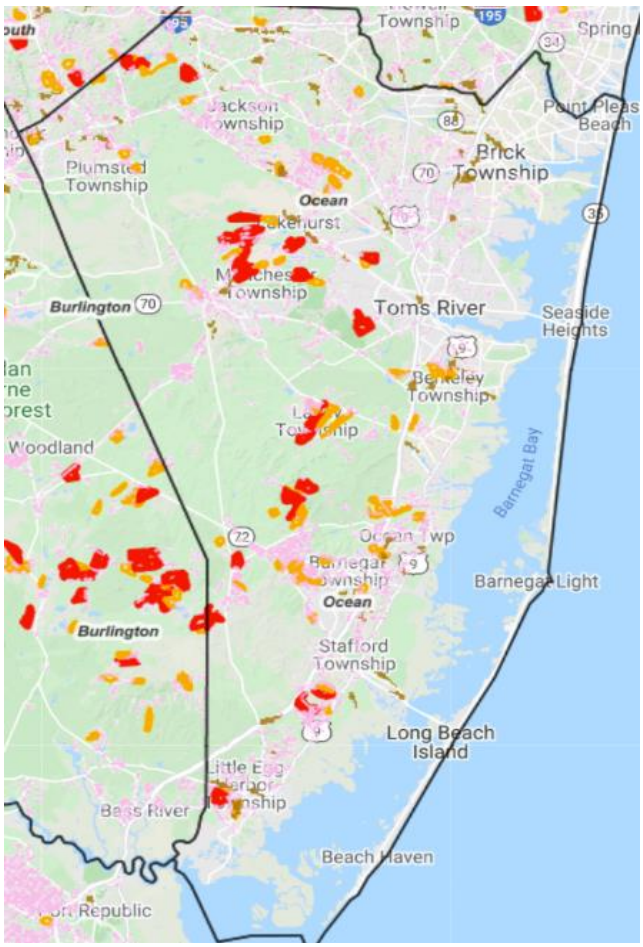


Figure 2 Ocean County Unpreserved Lands (Red, Pink, Orange) and NJDEP CHANJ Stepping Stones (Brown)

CMP Solar Standards/Issues April 2021

- Landfill closure requirements
  - Lack of impermeable cap, sufficient monitoring data and/or sufficient funding
- Outstanding violations
- Threatened and endangered species habitat and survey requirements
- Tree removal/clearing for ground-mounted facilities
- Extent and development of off-site infrastructure
- Restoration obligation at old resource extraction sites in PAD and FA

Possible CMP Solar Amendments April 2021

- Expand siting opportunities
  - Remove restrictions at mines in PAD and FA
  - Increase maximum size in APA (currently 10 acres)
  - Establish maximum permitted size in RDA and remove 30% clearing limitation
- Allow on closed but uncapped landfills and establish maximum permitted size in PAD and FA
- Limit extent of off-site infrastructure and amount of permitted clearing
- Establish specific limitations on clearing and tree removal
  - Require installation on existing impervious surfaces (rooftops and parking lots) before allowing clearing for ground-mounted facilities
  - Require tree replacement
- Require that new development incorporate solar energy facilities
  - Residential, Commercial, Public, Redevelopment