To: Sherri L. Golden, Secretary of the Board, New Jersey Board of Public Utilities
Email: board.secretary@bpu.nj.gov
From: Todd Olinsky-Paul, Senior Project Director, Clean Energy Group
RE: Stakeholder comments in the matter of the Straw Proposal for the New Jersey Energy Storage Incentive Program, Docket No. QO22080540

Clean Energy Group (CEG) appreciates this opportunity to comment on New Jersey BPU's Energy Storage Incentive Program. Clean Energy Group, a national nonprofit organization, works at the forefront of clean energy innovation to enable a just energy transition to address the urgency of the climate crisis. CEG fills a critical resource gap by advancing new energy initiatives and serving as a trusted source of technical expertise and independent analysis in support of communities, nonprofit advocates, and government leaders working on the frontlines of climate change and the clean energy transition. CEG collaborates with partners across the private, public, and nonprofit sectors to accelerate the equitable deployment of clean energy technologies and the development of inclusive clean energy programs, policies, and finance tools.

Clean Energy Group is pleased to submit the following stakeholder comments in the matter of the Straw Proposal for the New Jersey Energy Storage Incentive Program, Docket No. QO22080540, as requested by the New Jersey Board of Public Utilities.

We have not answered all questions, but instead have focused on those where we felt we could provide meaningful recommendations. For ease of reference we have included the numbered questions, with our responses following each question in boldface type.

1.0 Utility Ownership/Dispatch Control

The Straw "does not propose to allow for utility ownership or operation of devices," but notes that "EDCs will play a key role in building the grid infrastructure necessary to enable the effective dispatch of energy storage devices." This proposal was intended to encourage private ownership and operation of energy storage devices and the development of a robust energy storage sector in New Jersey's restructured competitive market.

1.1 What are the advantages and disadvantages of utility control versus non-utility control of energy storage systems?

"Control" is not the same as "ownership," and utility ownership of energy storage resources is not required in order for utilities to procure and provide electric system benefits from those resources. However, in order to optimize benefits, utilities (or the ISO) must have some degree of control – direct or indirect – over energy storage system dispatch. Such control can be managed in several ways,

including: direct utility control over privately-owned storage (utility or third party directly controls system dispatch via signal, with system owners able to opt out of individual events); indirect utility control via legal instruments (system owner or aggregator has contractual obligation to respond to signals or dispatch at predetermined times); and indirect utility control via performance incentives (system owner or aggregator earns performance payments by dispatching on a signal or at predetermined times). Note that third party aggregators/dispatchers may act on the system owner's and/or utility's behalf in any of these scenarios. From CEG's perspective, it makes little difference which type of utility control is employed, so long as system owners are fairly compensated for services provided, and retain the ability to opt out of dispatch calls. However, utilities may view indirect control methods as riskier than direct control.

1.2 For Distributed resource Performance-based Incentives, should responding to a utility signal be compulsory or voluntary?

Voluntary. The default inverter setting should be to respond to a dispatch signal, but system owners should have a penalty-free opt-out option. Studies of other state programs have shown that the response rate is very high; generally, customers who are earning performance payments rarely opt out of individual events. Opting out can (and should) lower the system owner's payment for the performance period, but not result in an additional penalty.

1.3 For Grid Supply resources Performance-based Incentives, should responding to a market signal be compulsory or voluntary?

Same as 1.2 above, but in the case of grid storage there may be a contractual penalty if the resource fails to respond. This can be structured similar to a standard demand response program.

2.0 Installed Storage Targets, Deployment Timelines and Capacity Blocks

The Straw set annual installed energy storage targets that increase over time (see section V. D. of the NJ SIP Straw Proposal for details).

2.1 How should capacity blocks be structured and proportioned, both within each component of the NJ SIP (Grid Supply and Distributed) and relative to each other?

2.2 Should the proposed first-come, first-served application process be changed to a "FirstReady, First-Served" process?

2.3 How should the program be designed to avoid or minimize interconnection delays? Should the interconnection process be modified for accommodating energy storage and if so, how?

The interconnection process should be updated to take into account energy storage-specific operating characteristics, and to minimize lengthy interconnection queues, cost barriers and delays. For more information see https://www.cleanegroup.org/publication/the-interconnection-bottleneck-why-most-energy-storage-projects-never-get-built/

3.0 Incentive Structure

The NJ SIP incentives are proposed to be comprised of two incentive payments, a Fixed Incentive and a Performance-based Incentive (see section V. E. of the NJ SIP Straw Proposal for details).

3.1 Incentives are meant to cover a portion of the fully installed cost of an energy storage system. What is the fully installed unit cost (in $/kWh) for energy storage systems at present, and estimated to be each year through 2030? How do New Jersey-specific costs vary from these estimates? Please provide links to your references.

3.2 What are the best public data sets for energy storage costs?

3.3 Should Fixed Incentives be assignable to an aggregator?

Yes. The energy storage market in NJ will benefit from the services developers and aggregators can offer, to the degree they are allowed to participate in the program.

2 Why or why not?

To allow developers/aggregators to develop and offer optimal financing arrangements to customers, bringing outside investment into the state and making systems more bankable. Storage system owners may choose to work with aggregators or not.

3.4 Should a Distributed energy storage resource that can provide grid services have the ability to opt in to either the Grid Supply or the Distributed storage program, for both the Fixed and Performance-based incentives?

Yes. It should be up to the storage owner/operator where and how to most advantageously market their services.

3.5 The Straw proposes the use of the PJM Marginal Emission Rate ("MER") signal as a basis for Performance-based Incentives for Grid Supply energy storage systems. Is or will the PJM MER be sufficiently developed to use to calculate NJ SIP Performance-based Incentives?

3.6 Is there a different methodology that can be used to determine Performance-based Incentives, such as a Peak Demand Reduction program?

This depends on the objective of the energy storage performance payment program. A peak demand reduction program may be used if the objective is to lower peak demand, which does confer ratepayer benefits. However, if the objective is GHG emissions reduction, then attention must be paid to what generation sources are on the margin when storage is charging and discharging. For example, if gas is on the margin most of the time, a peak demand reduction program could result in gas-generated electricity being shifted from one time to another, with no resulting GHG emissions reduction, although ratepayers might still realize cost savings and heightened grid efficiencies.

3.7 If a Peak Demand Reduction program were to be developed, how should it be structured? What other states have similar programs that New Jersey should use as a benchmark?

There are numerous state energy storage energy storage peak demand reduction programs. As stated above, the design of the program will depend on its objectives.

- **For GHG emissions reductions, see the California SGIP program.**
- **For peak demand reduction, see the Connecticut Energy Storage Solutions program, the Massachusetts ConnectedSolutions program, and Green Mountain Power's customer storage programs in Vermont.**

3.8 What degree/percentage of Peak Demand should be targeted for reduction? What effect would such a program have on GHG emissions?

The effect on GHG emissions depends on the marginal generation source at time of charging and discharging.

3.9 The Straw proposed that each EDC establish its own level of Performance-based Incentives. Should EDCs establish EDC-specific performance incentives, or should the incentive be standardized and common to all EDCs?

If possible, the incentive should be standard across the state, in order to allow equitable participation in the program across utility service territories. CEG also recommends additional equity incentives for low-income and historically underserved communities, and these also should be standardized state-wide.

3.10 Should energy storage owners be permitted to opt in, or be subject to utility control, in order to be eligible for Distributed performance incentives?

Generally, for energy storage system owners who are participating in a performance incentive program, responding to the utility signal is the default setting, but distributed energy storage system owners should be able to opt out of specific events without penalty.

3.11 How should incentives be structured for thermal storage systems?

3.12 Under what circumstances, if any, should Distributed resources be able to opt in to Grid Supply Performance-based Incentives?

They should be able to enroll in the Grid Supply program if they meet the program criteria. However, they should not be able to enroll a single storage device simultaneously in both programs.

3.13 Large projects and long duration projects have the potential to qualify for significant incentives. Should incentive caps be applied in this program? If so, how (for example, by customer, project, developer, duration or meter), or other method?

Massachusetts utilities have recently imposed a cap on performance incentives for power export paid to individual BTM batteries participating in ConnectedSolutions. The cap is set at 150% of the host facility's peak load. This was done because a few storage developers were attempting to install grid-scale batteries behind retail customer meters and then export power, essentially acting as BTM peaker plants. The rationale for this cap was that the ConnectedSolutions program, which is a part of the state's energy efficiency program, was intended to incentivize load shifting, not to subsidize battery peaker services. However, one could argue that so long as the power export is providing a

valuable grid service, and is not causing instability on the grid, the system owner deserves to be fully compensated for both load reduction and power export. CEG recommends that such issues be resolved prior to the launch of the program, and that rules for participation and compensation are clear from the outset, to avoid midstream rule changes such as in Massachusetts.

3.14 Should a cap be set such that the sum of federal and state incentives does not exceed a certain amount? If so, please provide details.

This sounds as though energy storage developers would be penalized for bringing federal investment dollars into the state. It's unclear why that would be necessary or desired. If the state is designing a program that compensates battery owners for services provided, the compensation rates should not be subject to reduction if projects secure outside funding.

3.15 What provisions should be included in the program for monitoring, reporting and evaluation in order for deployed projects to maintain eligibility for incentives that are paid over time?

3.16 How can BPU structure NJ SIP Performance-based Incentives to both promote value stacking and prevent double compensation?

This is a vague question. Is there a specific type of value stacking that NJ BPU is concerned about? This could be better discussed if specific examples were provided.

4.0 Overburdened Community Incentives

The Straw proposed three methods to support OBCs with energy storage incentives.

- An incentive adder in kWh
- A separate incentive block
- An additional up-front incentive

4.1 Staff is considering establishing both an adder and a capacity block for OBCs. What size should the capacity blocks be over time as a percentage of the overall Distributed segment? How much should the adder be in 1) $/kWh or 2) as a percentage of the base incentive?

A Justice40 approach would indicate that OBCs should be provided with a 40% carve-out.

CEG suggests contracting with an outside economics firm to determine the appropriate OBC adder rate, and then adjusting rates after the program is launched based on uptake.

4.2 How can BPU assure that the incentive structure chosen will in fact provide benefits to OBCs?

Require that applicants for the OBC adder show how they will provide community benefits in order to qualify. Community-based organizations that represent OBCs should be involved in vetting applications, or at least in determining the criteria that will be used to evaluate applications. Regular reporting on OBC benefits can also be required, and should be made public.

5.0 Other Questions

5.1 What actions, if any, should BPU take to improve access to the energy storage value stack as part of implementing the NJ SIP?

BPU should advocate for fair and open markets in which energy storage systems may compete with legacy generators in providing energy- and non-energy benefits. More open markets will allow energy storage owners to monetize currently unmonetizable system benefits; this in turn will allow the state to lower incentive rates in the future.

5.2 How will Federal Energy Regulatory Commission ("FERC") Order 2222 affect New Jersey's energy storage market? What changes should the Board make to the NJ SIP to take advantage of PJM's pending implementation of FERC Order 2222?

5.3 Are modifications to the NJ SIP needed to maximize the ability of energy storage developers to access federal investment tax credits or other federal incentives?

5.4 What provisions, if any, should be established for interconnection of zero-export energy storage facilities (that is, energy storage facilities that do not inject power back into the grid and only supply power to on-site load)?

Expedited interconnection processes should be established for these projects, since they will not require increased hosting capacity. NJ BPU should consider a "right to storage" for BTM load-reducing projects that do not export power. This could include reduced interconnection fees, reduced interconnection study requirements, and expedited interconnection queues.

5.5 What specific best practices regarding rates and tariffs from other states should be incorporated?

5.6 Should energy storage be utilized and compensated in the Triennium 2 Energy Efficiency /Demand Response proceeding as an allowable Demand Response resource? If so, what changes, if any, should be made to the NJ SIP design to avoid potentially providing double compensation for the same service?

Yes, it should be allowed as a DR resource. The simplest way to avoid double compensation would be to allow storage owners to enroll in one program or the other, but not both. A similar approach has been taken in Connecticut, where storage owners may enroll a storage system in the ConnectedSolutions program (through the energy efficiency plan) or in the statewide Energy Storage Solutions program, but not both.

5.7 How should energy storage systems be metered and measured? Can an inverter serve this function? What role should advanced metering infrastructure ("AMI") play in the NJ SIP?

Generally, inverters can provide ample metering services, such that additional revenue-grade meters are not needed. Requiring additional meters adds cost to projects, and can present technical challenges.

AMI could be useful, but will likely be costly. The lack of AMI should not delay the launch of the energy storage program.

5.8 Please provide any other comments on the NJ SIP.

NJ BPU is doing a terrific job in designing this program; however, time is of the essence. In order to meet state energy storage targets, the program should be finalized and launched without delay.

Clean Energy Group respectfully submits these comments and recommendations in the hope that they will be of value. We will be happy to discuss further or provide additional resources at NJ BPU's convenience.

Todd Olinsky-Paul

Clean Energy Group