From:

EnergyTag Ltd.
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To:

New Jersey Board of Public Utilities
Acting Secretary of the Board
44 South Clinton Ave., 1st Floor
Trenton, NJ 08625

Re: Docket No. QO22080540; In the Matter of the New Jersey Energy Storage Incentive Program

EnergyTag Ltd. ("EnergyTag") appreciates the opportunity to provide these public comments in response to the New Jersey Energy Storage Incentive Program (NJ SIP) Straw Proposal.

EnergyTag is an industry-led not-for-profit organization with a mission to develop global standards and markets for hourly energy attribute certificates ("Granular Certificates / time-based RECs"). Its activity is focused on three main pillars:

- Publishing and maintaining the world's only time-based REC standard. EnergyTag published its first Standard in 2022, developed by the world's leading REC experts and supported by over one hundred organizations including many based in the United States i.e. AES, Constellation, Fluence Energy, Google, Microsoft, M-RETS, PWC and United Nations Energy.
- Enabling the buildout of markets for hourly certificates and hourly matching, by coordinating various pilot projects around the world.
- Educating about and promoting the use of hourly certification in various policies (i.e. Clean Hydrogen production), as well as raising awareness regarding the benefits of introducing such systems amongst various non-governmental stakeholders

EnergyTag commends the New Jersey Board of Public Utilities (NJ BPU) in their forward-thinking proposal to advance and support New Jersey's clean energy industry and storage deployment, through a pay-for-performance credit tied to emissions. However, to ensure the intended environmental impact and robust accounting methodology that avoids double counting, the proper incentives and signals should be employed. As part of our work, EnergyTag has been closely following the evolution of research in the realm of temporal and locational matching of clean energy and the associated emissions impact, to drive long-term grid

decarbonization. Moreover, we have been detailing how to perform the hourly attribute tracking required to properly track attributes in and out of storage in a way that ensures no double counting.

Research Suggests Emissions Signal's Matter Depending on Program Objectives

Research by some of the world's leading energy systems modelers (Princeton, TU Berlin, IEA) finds that if more companies move from volume matching on an annual basis to matching more of their demand on an hourly basis, it will lead to lower system emissions and accelerate technological innovation, including supporting the technologies we need (such as energy storage and clean firm generation) to create fully zero-carbon grids cost-effectively. Another important finding from Princeton's hydrogen analysis and procurement analysis is the distinction between measuring emissions impacts using an average, short-run marginal, or long-run marginal emissions rate. The Princeton modeling shows that there is little relationship between short-run marginal emissions and long-run system emissions reductions. This is also consistent with research by NREL showing a significant divergence between methods, which suggests that short-run marginal emissions should not be used to evaluate the impacts of long-lived interventions (such as deploying clean power or storage assets) but rather should be used to estimate short-run emissions impacts. Therefore, if the desire of the program is to drive long-run impacts from storage, using short-run marginal emissions signals may not be the optimal signal for this purpose.

Issues with Implementing Short-run marginal emissions

As stated in PJM's primer, "In some situations, the marginal units, and hence the marginal emissions rates, can provide an indication of what would happen based on a change in behavior. For example, if a single coal-fired generator were on the margin, and a customer increased their power usage, the generator would need to burn more coal. Likewise, if the customer decreased their power usage, the coal generator would burn less coal. In an extremely simple scenario, this is true. The PJM system is vast and dynamic, however, with millions of values changing from one moment to the next. Those changes will be reflected in the dispatch of the next five-minute interval. It's important to understand that marginal units do not provide a prediction of what would happen. They only show what has just happened."

This highlights a number of concerns. If used to "attribute" credit for offsetting the marginal plant to a consumer, and with a credit large enough, users may turn to short-run marginal emissions rates as a signal, or a prediction of what would happen, to try to maximize the financial incentive. There may be double counting / ownership issues if all storage assets on the grid at a given time were to claim to offset the marginal plant, this issue would have to be resolved before attributional claims based on RECs could be used while ensuring no double counting. Moreover, there is no "source of truth" signal, since the estimation will always be based on modeling a counterfactual, and different projections may lead to very different charge and discharge outcomes (CEBI, pg. 25). Further, the marginal metric is based on a unit change, and therefore

the metric itself would change if storage assets at scale are all assumed to be on the margin. Even if the desire is to remain with a short-run marginal emissions number, these issues should be resolved to ensure robust implementation if that is the case.

Propose using allocation methods based on time-stamped RECs and grid average until more clarity on marginal emissions signals

As discussed in EnergyTag's Guidelines, how "green" storage is can be tracked using granular records of the time and location of when the storage asset charged and discharged and the associated emissions of the grid at that time and location. While EnergyTag does detail a methodology for those looking to calculate avoided emissions based on storage and marginal emissions (short-run or long-run, noting that long-run may be more useful), we noted that this methodology is still at an early stage with several fundamental questions (e.g impact, avoiding double counting, standardized marginal emissions' data) that need resolving before this could be implemented at scale. Moreover, much of the research cited above has emerged since the publication of our guidelines in early 2022.

Therefore, EnergyTag cautions against the risk of unintended consequences of using a short-run marginal signal based on the research to date and based on issues with ensuring unique allocation of the carbon offset attribute of the marginal plant without double-counting. As an alternative, NJ BPU may consider the use of an average grid emissions rate to allocate emissions, which also has precedent, has a lower risk of overestimating the impact, and is verifiable when implemented at scale.

In all cases, where energy attributes are being tracked in and out of a storage device, time-stamped RECs should be used to ensure proper accounting of energy in/out of the battery and accounting for losses. These should be issued and tracked following best available standards and guidelines.

We thank you for the opportunity to submit these comments and appreciate your willingness to consider our recommendations. Should you need any additional information, please contact the undersigned using the information below.

Sincerely,

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