

Ecogy Energy
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Dear DOER,

Ecogy respectfully submits these comments in response to 225 CMR 20.00 - the Emergency Regulation Comment Period for the SMART Extension.

Ecogy Energy, based in Brooklyn NY and founded in 2010, is an experienced developer, financier, and owner-operator of distributed generation projects across the U.S. and Caribbean. Ecogy applauds Massachusetts leadership in creating and extending incentives and policies aimed at encouraging optimally sited solar PV systems on rooftops, canopies and brownfields. Further, Ecogy believes the SMART program has clearly been a major driver for accelerating battery energy storage deployments within the development community and as such has played a key role in accelerating the growth of this critical technology.

Ecogy's focus and niche is on the <1 MW arena and particularly on systems sited on rooftops, parking lots and brownfields. Ecogy believes that with sound planning, proper development and fair incentives for these types of projects, the Commonwealth, its residents and the clean energy industry as a whole will ultimately be more successful. By focusing on such projects constructed in and on the built environment, the development community can preserve precious and limited natural resources while directing the benefits of the SMART program to local businesses, property owners, nonprofits and other organizations that need them most. These benefits, including new revenue streams and discounted electricity will in turn allow such organizations to continue their operations serving the commonwealth, creating jobs, expanding municipal tax bases and stimulating local economies.

Ecogy entered the Massachusetts market upon the announcement of the SMART program due to the focus and goals of the program; to encourage smaller-scale community solar projects with a particular focus on properly sited projects (rooftops, canopies, brownfields) and to encourage greater low-income community solar access. Ecogy was quickly caught off-guard by the amount of back-logged ground-mount development that captured early incentive tiers. Such backlog in the Commonwealth was hard to quantify due to the lack of and/or imperfect hosting capacity maps and utility interconnection queues in all the utility territories. This pent-up supply of ground-mount projects 1) caused delayed timelines for new, better-sited projects (due to interconnection delays, solar PV moratoriums caused by ground-mount projects, and interconnection cost-sharing of ground-mount projects) but also 2) reduced incentive rates below what was expected/modeled due to the blocks filling up almost immediately with the vast majority reserved by large ground-mount projects. This was particularly an issue in territories encompassing vast swaths of land such as Eversource West and National Grid. Due to the SMART blocks filling up so quickly with the back-logged demand of large ground-mount projects, Ecogy had to cancel development activities for multiple rooftop and canopy projects. We have since halted all development activities in certain areas of the Commonwealth as such optimally site projects often come along with increased development and installation costs which the later incentive tiers cannot support. These issues persist today.

Ecogy has a unique perspective in this solar-coaster of development whereby a new solar

program is announced by a State, followed up a quick land-grab-rush by developers for easier and more profitable ground-mount projects only for Towns/Localities to not be ready with appropriate solar codes who then protest and pushback and often times enact moratoriums. The moratoriums more often than not lump solar into one category; prohibiting any new, and properly-sited projects. Ground-mount development continues and clogs up any utility capacity that could be reserved for better sited projects; concluding with any future well-sited projects having to pay or cost share upgrades with previous projects that actually triggered them. Overall, these processes attract significant negative attention for clean energy, sustainability goals and the state program; ultimately failing in encouraging wise solar development that the State can be proud of.

Ecogy is happy to share experience and references the following examples where this trend has taken place:

Example 1: Vermont (RPS and Top Solar Jobs per Capita in 2015 -> Town/State protests -> Moratoriums -> Act 250 -> size cap of 150 kW AC projects -> Loss of jobs and limited development opportunity.

Example 2: Rhode Island RE Growth Program (>90% ground-mount projects in 5 years of operation -> moratoriums across the state (Exeter, Coventry, etc.) -> lawsuits by ground-mount developers -> creation of canopy adder (6MW/Year)

Example 3: NY VDER -> massive queue of ground-mount projects upstate filling up tranches in all upstate territories in less than 6 months (estimated to take 3-5 years) leaving no value for optimally sited projects -> moratoriums enacted across Upstate -> halted all development within the industry other than 5MW AC projects (maximum cap).

Ecogy within the SMART Program:

Ultimately, Ecogy was successful with 6 projects (all rooftop and parking lot canopies) during the first phase of the SMART program consisting of the following:

Project Name	Utility Territory	Location	System Size	Notes:
Ecogy Sherwood	National Grid	Palmer	579 kW DC (Rooftop)	Ecogy Sherwood was the first rooftop project proposed for the Town of Palmer after 10 ground-mount projects totaling 28.3 MW . The Town of Palmer applauded Ecogy for applying with the first rooftop project.
Ecogy Progress	Eversource West	Springfield	267 kW DC (Rooftop)	Ecogy Progress is a rooftop system that subsidized a brand new 20 year roof for a local small business. This project qualified for block 8 of Eversource West tranche. Given the saturation in this territory and relatively low base compensation rates, similar projects in Eversource West are no longer feasible.

Ecogy Greenwood	National Grid	Worcester	223 kW DC (Rooftop)	Ecogy Greenwood is a rooftop project supporting a local Worcester business. This system was able to offset the costs of necessary roof remediation and resulted in a brand new roof for the property owner.
Ecogy Millis	Eversource East	Millis	220 kW DC (Canopy)	Ecogy Millis is the first canopy project the Town of Millis reviewed after multiple large ground-mount projects in priority habitat and near wetlands.
Ecogy Foxborough	National Grid	Foxboro	518.2 kW DC (Rooftop)	Ecogy Foxborough is a rooftop project on one of eight buildings in a technology park. Other buildings were analyzed and the hosting capacity was full due to ground-mount projects down the road.
Ecogy Gateway	Eversource East	Cotuit/ Barnstable	240 kW DC (Canopy)	Ecogy Gateway is the first proposed canopy project the Town of Cotuit has seen.

Ecogy hopes to focus on two main projects as specific case studies in reference to our comments:

Case Study 1: Ecogy Millis



Ecogy Millis is a 220 kW canopy project in the Town of Millis in Eversource East utility territory. Ecogy is administering a Community Solar Program, distributing credits to residents and businesses within the area and is paying the property owner an annual rent for hosting the system in addition to energy savings through serving as the Anchor customer. The project

originally was a rooftop system but after failing multiple structural analyses was revised to a canopy project. Due to access requirements for tractor trailers and emergency vehicles, the front canopy was reduced in size. Due to trees present along the western border of the property, a canopy was eliminated. Due to wetlands present to the north of the property and the western canopy the project had to fulfill wetland delineation as well as habitat species approvals. There are many benefits to highlight for a project of this nature:

- 1. Optimal Land Use** - Prior to Ecogy's proposal to mount solar on the parking lot, the Town of Millis had multiple multi-megawatt ground-mount applications and had previously never heard of a solar canopy. Ecogy's proposal was welcomed as an innovative approach to driving continued clean energy development in the area and is the Town's very first canopy installation. Although the project required multiple approvals (setback variances, wetlands through NOI and habitat species, stormwater management, etc.) the project was able to receive approval for all within a 3 month period. This unfortunately shows that other commentators in the energy industry that say it is impossible to develop projects (particularly ground-mounted projects) with these new emergency rules are unfathomed as this 220 kW DC canopy project was able to do so with limited interference, costs or disturbance.
- 2. Local Economic Support** - The annual rent paid to the women-owned and local business since 1969 provides a low risk, non-weather dependent source of revenue to their operations - which along with the energy savings will greatly help their manufacturing operations. As one of the only manufacturing companies left in the Town of Millis, this offers welcomed support for the local job market and continuation of operations in the Commonwealth. This project was able to achieve Block 1 and the full canopy adder of the Eversource East incentive program and offer a worthwhile value proposition to Millis. As the result of an influx of large ground mounted projects in Eversource East's queue, smaller, optimally sited community shared solar projects like this are no longer able to provide such attractive value propositions as the later block base compensation rates do not support the economies of small-medium scale canopy installations. The estimated canopy specific installation cost for this project is approximately \$342,000 in current 2020 dollars and the canopy adder \$0.06/kWh based on the total lifetime production (5,122,349 kWh) represents a total value of \$307,341 so when a NPV factor is included. The NPV of the canopy adder over the 20-years with an 8% standard discount rate is \$152,011 which corresponds to roughly half the actual cost - hence the request to increase the location adders below. This shows the canopy adder's value over the 20 years is clearly undervaluing the cost and will not make up for the drastically larger installation cost directly attributable to the canopy system type.
- 3. Community Shared Solar** - Ecogy will administer a community shared solar program for this project which will distribute the credits generated to local community members and businesses furthering increased awareness for clean energy and the positive economic impact of the project.

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Case Study 2: Ecogy Sherwood



Ecogy Sherwood is a 579 kWdc solar system mounted on the warehouse of a local Palmer business, Sherwood Lumber Corp in National Grid territory. Ecogy is administering a Community Solar Program, distributing credits to residents and businesses within the area and is paying Sherwood Lumber an annual rent for hosting the system.

There are many benefits to highlight for a project of this nature:

1. **Optimal Land Use** - Prior to Ecogy's proposal to mount solar on Sherwood's warehouse roof, the Town of Palmer had seen 10 projects totaling 28.3 MW of large scale ground mounted solar projects, many of which required acres of tree clearing. The inundation of the Town with rapid, aggressive solar development has led them to halt any potential future ground mounted projects of similar nature via a moratorium. Ecogy's proposal was welcomed as an innovative approach to driving continued clean energy development in the area and was the Town's very first rooftop installation. The Town manager joined a ribbon cutting ceremony to highlight this and support Ecogy's mission to develop more of the same throughout the Commonwealth.
2. **Local Economic Support** - The annual rent paid to Sherwood Lumber provides a low risk, non-weather dependent source of revenue to their operations. As one of the largest employers in the Town of Palmer, MA this offers welcomed support for the local job market. Even though the project began the development cycle prior to the SMART announcement, this project was only able to achieve Block 4 of the National Grid incentive program; barely able to offer a worthwhile value proposition to the largest lumber distributor in the US. As the result of an influx of large ground mounted projects in Nat Grid's queue - smaller, optimally sited community shared solar projects like this

are no longer able to provide attractive value propositions as the later block base compensation rates plus current adders do not support the economies of small-medium scale rooftop installations especially with lower production figures from common low sloping roofs such as this.

3. **Community Shared Solar** - Ecogy will administer a community shared solar program for this project which will distribute the credits generated to local community members and businesses furthering increased awareness for clean energy and the positive economic impact of the project.

Finally, Ecogy would like to take an opportunity to offer specific comments and feedback on the DOER's Emergency rulemaking:

1. **Land Use Regulations**

Ecogy Energy prides itself on investing in optimal land use projects such as rooftop, canopy and brownfield ground mount installations. We believe that the clean energy goals of the state and the SMART program can be met with such developments while also supporting local businesses, property owners and organizations throughout the commonwealth. As seen in our Palmer and Millis, MA case study - rooftop and canopy projects are welcome by local jurisdictions as a great use of space in Towns vs. the destruction of precious environmental land and resources. While large scale projects may increase the added capacity of newly installed projects on a per project basis, they typically take significantly longer to receive all approvals and permits - especially as most ground-mount developers try to build at the very last minute; stalling and betting that panel pricing will decrease as they try to build in their 3rd or 4th year of development. Small scale projects on the other hand - receive approval quicker and thus with appropriate market incentivization and scale, can have the same impact as slow moving large scale projects. As we previously mentioned, Ecogy was successful getting wetlands and habitat species approvals for our Millis 220 kW canopy project and respectfully disagrees with our fellow clean energy commentators that these new rules would prohibit or make impossible future projects. Developers in the Commonwealth need to respect these rules and develop accordingly; not the other way around. It is more valuable to develop 10 well-thought out projects that have the support of the community than one that is improperly sited, protested against but is bigger and corresponds to a greater proportion towards SMART goals. **In conclusion, Ecogy supports the current land-use restrictions proposed by the DOER.**

2. **Increased Compensation Adders**

As base compensation rates have rapidly deteriorated behind an influx of pent up supply of large scale ground mounted projects, small-medium scale installations have ultimately paid the price. The success of such smaller developments is much more sensitive to the SMART rate given install costs are significantly higher on a \$/W basis and the market for financing such projects is limited.

Ecogy offers vertically integrated solutions of development, engineering and financing for such small-medium scale projects and ***as an active participant in the SMART program is requesting an increase of location based compensation rate adders of 100% for Rooftop and Canopy categories to offset the negative impact of large scale projects base rate block compensation hoarding particularly in National Grid***

and Eversource West but what we anticipate is currently happening in Eversource East. By increasing location based adders vs. Base rates, SMART will continue to steward optimal land use development and better encourage properly-sited projects. This will also minimize the risk of another pent up wave of demand of ground-mount projects which will then hurt the next phase of properly-sited projects. By limiting the increase to these adders only, ground-mount projects will be more competitive or developers will be forced to think differently about how they develop; in a more smart, comprehensive and community-based way towards properly-sited projects.

3. Improved Reporting on Incentive Allocation Status

Enabling developers to properly gauge expected SMART qualification rates is critical to fostering active marketing and development. Currently, the MA SMART website gives very limited insight into the status of incentive allocations across territories. ***Ecogy is requesting an update to SMART reporting which accounts for projects that fall out after an initial qualification. Ecogy seeks more perfect data of the number of different system type (ground-mount, rooftop, canopy, etc.) projects to date in their applicable block, and the average system size allocated per block. Ecogy believes the vast majority of projects accepted into the SMART program are large-ground mount projects but has imperfect information on the actual data.***

4. Storage 500 kW requirement

Ecogy reiterates its view that the DOER and SMART are acting as one of the major driving forces across the nation for encouraging deployments of Storage projects. As a financier and owner/operator, Ecogy is constantly exploring new technologies including bifacial modules, smart inverters and optimizers, trackers and battery energy storage in an attempt to optimize operations and maximize value to the grid.

Given our focus in the < 1MW space Ecogy is excited by the DOER's intent of requiring storage on projects greater than 1 MW. As can be seen for our most recent MA interconnection applications, Ecogy has decided to incorporate batteries into its interconnection design sets prior to this potential requirement. That said, we would reiterate other stakeholders when suggesting that this requirement may be coming too soon. There are two components to this perspective:

1. Local permitting jurisdictions and fire marshals have simply not had the time to become educated enough around the different types of battery technologies to properly vet and approve such deployments within their jurisdictions. This means that any potential 500 kW or larger project must engage in a lengthy educational process to receive project approval and begin construction. While such soft costs may be affordable to larger scale projects (>1 MW) such time delays could be the difference between a successful medium scale canopy /rooftop project and an unsuccessful one.
2. Financing for medium scale projects >500 kw < 1 MW is limited enough as many institutional financiers are typically not interested in such small scale. Incorporating energy storage requirements on such projects will further limit the pool for financiers interested in such projects as the addition of storage makes the cash flows even more complicated, uncertain and operationally contingent (ie if the storage software does not perform, the expected cash flows necessary to offset increase capital costs, can effectively go to zero).

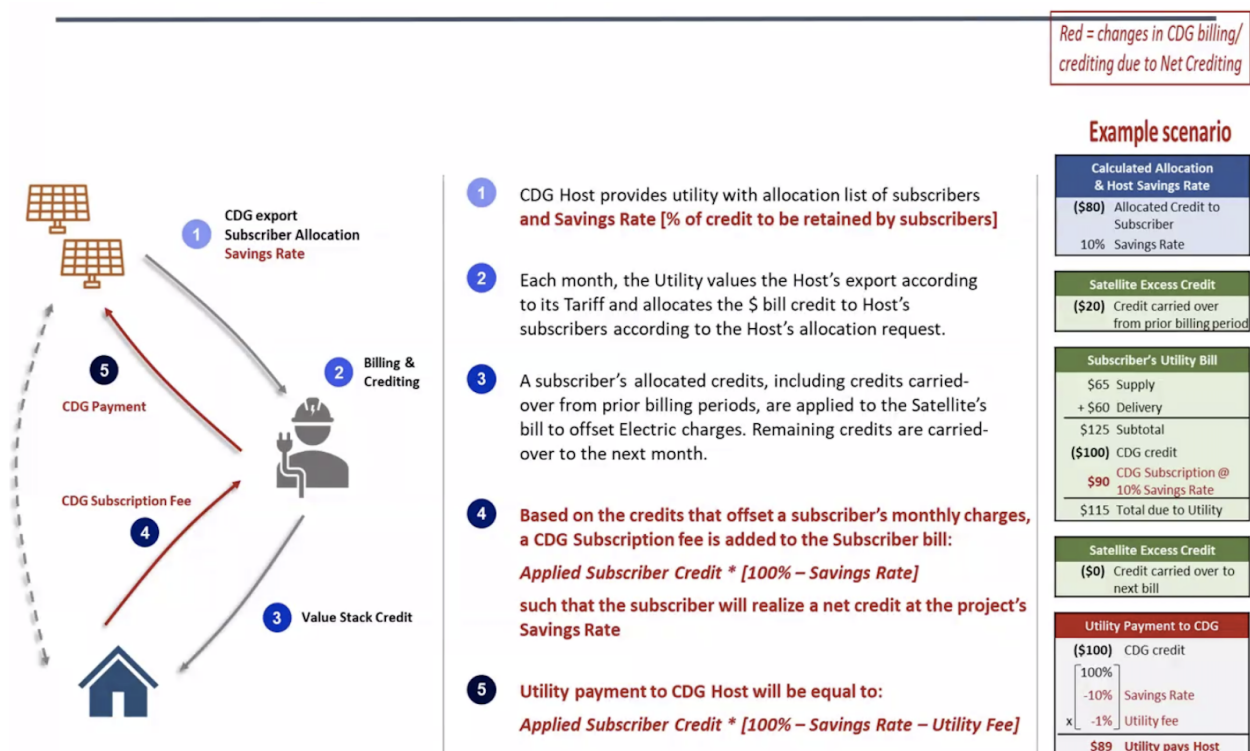
Rather than mandating storage on certain size assets, the DOER should instead increase incentives for such systems. Ecogy suggests increasing the Storage adder and implementing a sliding scale multiplier that is higher for smaller scale systems than it is for larger scale projects. It is evident that larger scale systems are already gaining traction as can be seen in the aggregate interconnection queue (average PV + Storage system size is 2.67 MW). Such projects can cost effectively participate in NEISO wholesale markets. Smaller commercial scale projects, however, do not have the same luxury and thus have not seen similar uptake even though, on an aggregated basis, could provide the same, if not more, benefits to the distribution grid.

5. Community Solar 90% Subscriber Requirement

Ecogy is reiterating other stakeholder sentiment and requesting clarity on the full ramification of missing the 90% subscriber deadline.

6. Consolidated Billing (Similar to NY Net Crediting Model)

Ecogy serving as a developer, financier and owner-operator across 12 states, D.C. and the Caribbean knows how much long-term billing & administration can affect project economics. Ecogy recommends SMART enact an order requesting utilities to create Net Crediting Models whereby Community Solar projects can avoid having to bill customers and recoup payments from them directly. The following graphic shows how simple this can be with the utilities acting as administrators and recouping the expenses by taking a portion of the revenue;



By having the utility bill and administer the project, New York is hoping for greater low-income community solar adoption and lower returns expected from financiers due to a greater revenue certainty. Ecogy as an owner-operator would happily pay 1% of our revenue for this mechanism and believes it will relieve credit requirements for off-takers and allow for greater simplicity

overall which will drive greater adoption.

We thank you again for your consideration to submit these comments and appreciate you supporting the clean energy industry.

Warmest regards,

/s/

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