



June 1, 2020

Commissioner Patrick Woodcock  
Massachusetts Department of Energy Resources  
100 Cambridge Street, Suite 1020 Boston, MA 02114

Re: Borrego Comments on 400 MW Review Emergency Regulation

Dear Commissioner Woodcock:

Borrego Solar Systems, Inc. (Borrego) appreciates the opportunity to provide comments on the SMART Program Emergency Regulations. Borrego supports the comments of the Solar Energy Industries Association, the Coalition for Community Solar Access, MassSolar, the Northeast Clean Energy Council, the Solar Energy Business Association of New England, and Vote Solar (the Solar Parties) on the Emergency Regulations.

We sincerely appreciate that DOER has proposed to expand the enormously successful SMART program. The program has already deployed more clean energy and energy storage at historically low cost than any other program in the Commonwealth, and with the exception of the issues noted below, we believe it can continue to drive us toward deeper decarbonization while helping the state recover from the coming recession.

Unfortunately, other elements of the proposed regulations would effectively defeat the purpose of the expanded SMART program by making the most efficient form of solar—ground-mounted solar—all but impossible to build in the future. As DOER is aware, Borrego has for years been an active participant in discussions with conservation organizations and with DOER and EEA about how to balance legitimate conservation objectives with equally legitimate and urgent clean energy, climate, and cost reduction goals. In our opinion, the new Emergency Regulations—which include expansive new prohibitions while maintaining the most problematic elements of DOER's previous land use proposals—represent a failure to appropriately balance the state's critical climate needs and the autonomy of local authorities with the state's legitimate and laudable desire to preserve open space.

As we explain below, these rules would cripple our business in Massachusetts and result in a major pull-back of our investments in the state. Unless the land use provisions are changed, we stand to lose over \$14 million in investments representing 130 MW of mature solar and storage projects. The new rules also would deprive towns, school systems, and rural communities of revenues and bill savings that they will need now more than ever, given the dire economic and

budgetary situation the state now faces. Each new ground-mounted project under SMART can provide local communities \$1-2 million in property tax revenue through local PILOT agreements, while offering hundreds of thousands of dollars in savings for community solar subscribers such as towns, hospitals, military personnel, businesses, renters, and school systems. Although we strongly support all forms of solar, we are conscious that on-site solar alone cannot provide these revenues and savings in the same volumes and to the same broad array of stakeholders as the state's ground-mounted sector. We believe these important benefits should be considered alongside the other concerns that DOER is attempting to balance.

Despite our high level of concern with the choices DOER has made with respect to land use concerns in the new Emergency Regulations, we continue to believe that the Baker Administration is serious about adopting policies that will spur rapid, cost-effective decarbonization and that the severe negative impacts the industry is poised to experience were not the intended result. We are optimistic that through continued engagement we can collectively reach a compromise that will allow the state to continue accelerating its pathway to decarbonization while preserving the most important open spaces for generations. We hope that DOER will consider the following comments in the sincere and respectful spirit of collaboration in which they are offered.

### **Summary of Recommendations**

- DOER should remove the new land use restrictions from the Emergency Regulation and convene a robust stakeholder process to reach consensus about how to balance climate, cost, and conservation objectives.
- DOER should modify grandfathering provisions to prevent severe economic damage to companies like Borrego.
- DOER should reduce the "Greenfield Subtractor" to a level that is based on the conservation value of land being used for solar.
- DOER should allow Public Entity STGUs to be sited outside the municipality to which the offtake is subscribed and should allow owners to assign less than 100% of output to a single municipality or government entities.
- DOER should apply the "Solar Tracker Adder" to solar projects using single-axis trackers.
- DOER should adopt a fair process for assigning limited block capacity in cases where multiple projects apply for SOQs at the same time at the conclusion of group studies.
- DOER should continue to designate as "Category 1 Non-Agricultural" ground-mounted STGUs with capacity >500kW and less than or equal to 5,000kW that are sited within a solar overlay district or that comply with established local zoning that explicitly addresses solar or power generation.

## Recommendations

- I. **DOER should remove the new land use restrictions from the Emergency Regulation and convene a robust stakeholder process to reach consensus about how to balance climate, cost, and conservation objectives.**

### *The Economic Impact of the Proposed New Restrictions*

Solar projects — like nearly all types of energy projects — require long-term revenue certainty in order to be financed. Indeed, no energy project — not offshore wind, not energy storage, not hydroelectricity, and not natural gas or nuclear — has been built without access to a significant amount of long-term, guaranteed revenue — whether in the form of a state-sponsored energy contract, an ISO New England capacity contract, or rate recovery guaranteed by an order from the Department of Public Utilities (DPU). Given the market dynamic in New England, the SMART program represents the only mechanism through which solar projects can currently access a reasonably secure source of long-term revenue in Massachusetts. Preventing projects from accessing the SMART program is therefore tantamount to prohibiting these projects from being constructed.

For this reason, Borrego strongly supports the Solar Parties' positions on DOER's surprise new GIS-based land use prohibitions. Although perhaps unintended, the cumulative effect of these new rules — when placed in the context of the already challenging development environment in Massachusetts — will be to decimate the large-scale, ground-mounted solar industry in the state at a moment when we should be accelerating all cost-effective forms of clean energy that we have at our disposal.

As the map in the Appendix shows, these unprecedented new restrictions will close off vast portions of the state to ground-mounted solar development, leaving very few areas where new projects can be built. In our case, the new rules will devastate Borrego's business in Massachusetts. If implemented without changes, these rules will eliminate 80% of Borrego's pipeline overnight. We will be forced to abandon over 130 MW of solar and storage projects in advanced stages of development, representing a total sunk cost to date of over \$14 million. The cancellation of these projects alone will mean the state will lose out on an estimated 900 construction jobs; nearly \$500 million of private investment; and tens of millions more in lost lease and property tax revenues for rural landowners and towns. A loss of this magnitude would result in severe hardship for our business and for the towns, landowners, and other businesses with whom we partner.

We understand that DOER is in a challenging position, and that the Administration has received complaints from towns and individuals about the pace of solar development in their communities. And we are 100% supportive of ensuring that solar development — like all

development — is carried out in a way that is sustainable, respectful of local preferences and achieves conservation objectives. We submit, however, that the new regulations do not appropriately balance the legitimate concerns for conserving our most precious lands with the urgent need to accelerate renewable energy to bend the curve in the fight against climate change — a fight to which the Baker Administration has fully and rightfully committed itself. Indeed, now is precisely the wrong time to severely handicap a job-creating industry that the state will need to meet its climate goals and to recover from the economic crisis we now face.

### *Concerns with Using GIS Planning Tools for Regulatory Purposes*

The severe impacts to us and the rest of the large-scale solar industry feel particularly unfair when considering how the GIS layers being used for the new land use restrictions were devised. The Core Habitat and Critical Natural Landscape (CNL) layers, which are part of the state-sponsored BioMap2 project, were never subject to a public stakeholder process that included industry, landowners, and other affected entities.<sup>1</sup> The BioMap2 report and the layers it produced were designed to guide state and local conservation planning and spending; they were never intended to be used to restrict how property owners could utilize their land or to prohibit development altogether, especially through regulations. For example, the official BioMap2 Report Summary states that its layers “can tolerate a certain amount of human impact and still retain their important habitat values”. The BioMap2 Summary also states that the “Critical Natural Landscape will support moderate levels of compatible human use”, and celebrates the “flexibility in the types of land protection tools available for preserving biodiversity within Critical Natural Landscape”.<sup>2</sup> Although the state may have looked to the BioMap2 layers in the past when making decisions about how to target conservation dollars, there is a vast difference between relying on the layers as a planning tool for targeting state funding for voluntary land purchases and using the layers — as DOER has proposed — to effectively prevent private landowners from engaging in economic activity that is permitted in areas outside of the BioMap2 areas.

Use of the BioMap2 layers is also problematic because the creators of the BioMap2 GIS layers used methods to draw the CNL layer that are not appropriate for outright prohibition on a parcel by parcel scale. The “BioMap2 Technical Report - Building a Better BioMap” (Technical Report) describes the method used to develop the CNL layer as requiring its creators to “subjectively” select conservation metric thresholds that, through visual review of GIS maps, met their private conservation criteria. The final step in creating the CNL layer was to “smooth” boundaries, including and excluding land solely for aesthetic purposes.<sup>3</sup> DOER’s unexplained proposal to also exclude parcels that have more than 50% within one or more of the layers simply compounds the subjective nature of the proposed regulation. In addition, the state’s robust Natural Heritage process allows landowners to demonstrate that the Priority Natural Habitat

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<sup>1</sup> BioMap2 Technical Report, p. 1-2

<sup>2</sup> Biomap2 Summary p. 56

<sup>3</sup> BioMap2 Technical Report - Building a Better BioMap, p. 85

layer (perhaps the least subjective of the three new layers) is inaccurate as applied to specific parcels or areas — a process that would now apparently be unavailable under the new DOER regulations.

In sum, DOER's use of the BioMap2 layers to prohibit specific uses on specific parcels goes well beyond the purpose for which this tool was designed. If adopted in final regulations, this decision would set a dangerous precedent for how other quasi-governmental planning efforts could later be used as a basis for denying stakeholders access to government programs. Indeed, if the DOER adopts the regulations in their current form, it would be the first time in the history of the Commonwealth that any form of development, clean energy or otherwise, has been outright prohibited by reference to the Priority Habitat, Core Habitat, and CNL layers. We submit that doing so would be an extreme and unfair reaction to what we know are legitimate, if localized, concerns about the pace of development in certain areas of the state.

Finally, DOER's reliance on these layers to unilaterally prohibit solar development completely disregards the important, well-established, site-specific processes used by state and local environmental agencies to plan and manage sustainable solar development. These open, public processes have been created and are managed by expert state agencies and by democratically elected and appointed local authorities, and in the vast majority of cases have resulted in appropriate accommodation between local and state conservation objectives and clean energy development.

***For these reasons, Borrego recommends that DOER remove references to the Critical Natural Landscapes Layer from the regulations and engage in further stakeholder discussions before considering inclusion of references to any other GIS layers, including the Priority Natural Heritage and Core Habitat layers.***

In the event DOER declines to allow time for an appropriately robust stakeholder process to discuss these previously unvetted new restrictions, ***Borrego recommends that DOER create a pre-determination process to allow projects to request good cause waivers from any GIS layers that are retained, based on demonstration (with biologist certification) of one of the following:***

- ***The GIS layer is inaccurate (e.g., for Natural Heritage or Core Habitat, no species of concern is actually present in the layer), or***
- ***The project can move forward with no adverse impact to the species or habitat at issue in the GIS layer impacted.***

Finally, in light of the fact that the named GIS layers could change over time with subsequent BioMap or Natural Heritage updates, DOER should also clarify what will happen if projects that are initially clear are subsequently found to be located within new layer boundaries. ***We recommend that DOER only apply the new GIS-layer restrictions to projects that would have been restricted at the time the project secured site control; DOER should not apply***

***changes to GIS layers retroactively after projects have commenced development.*** This process may best be handled through a pre-determination letter process.

**II. In the event DOER retains any of the new restrictions, DOER should modify grandfathering provisions to prevent severe economic damage to companies like Borrego.**

While we appreciate that DOER included provisions to safe harbor certain projects from the harmful new changes to the program's land use provisions, the current provisions are insufficient to prevent severe and unfair economic losses. In most cases, affected ground-mounted projects that would ordinarily qualify for the proposed grandfathering provisions have been unable to do so because of a combination of multi-year interconnection bottlenecks and the shutdowns associated with the current COVID crisis. As a result, nearly a dozen Borrego projects that made significant investments based on previously advertised program rules will be unable to qualify for the grandfathering provisions, creating significant financial hardship.

Projects in Eversource East have been particularly impacted by years-long interconnection delays that have been recognized and are beginning to be addressed in DPU Docket 19-55. Despite some recent progress, additional delays are expected to render the October 15th ISA deadline ineffective for grandfathering mature projects.<sup>4</sup> Moreover, projects facing multi-month delays have typically paced their permitting to match the slow pace of interconnection studies, meaning that the vast majority of projects that have been stuck in one of the utilities' Affected System Operator (ASO) studies or in Eversource's slow-moving interconnection queue are unlikely to have completed permitting. For this reason, DOER's use of permitting as a threshold for grandfathering fails to account for the reality of solar development and risks stranding millions of dollars of investments that were made in legitimate reliance on a far less onerous set of rules that existed prior to April 15. As discussed above, if implemented without changes, the new Emergency Regulations would result in the loss of more than \$14 million of investment and a near-total decimation of our pipeline in the state.

In light of the previously unannounced and unprecedented nature of the new GIS-based prohibitions and the severe economic damage that would result, Borrego strongly recommends that DOER provide a reasonable transition period before imposing the new rules.

***For this reason, Borrego strongly supports the Solar Parties' recommendations on grandfathering.*** Keying the grandfathering rules to the opening of previously unannounced capacity blocks, and basing grandfathering on variables that developers can control (i.e., on interconnection application dates, rather than the date on which permits or interconnection agreements were received) would be fair and straightforward to implement. These rules would

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<sup>4</sup> For example, Eversource's latest estimate for completion of its broad-ranging Affected System Operator (ASO) study is January 2021, a date that is almost certain to slip if restudy is required for any projects.

also ensure that only mature projects with substantial investments would be exempted from any rule changes, while ensuring that any new projects making use of new SMART capacity — i.e., those with reasonable notice — would be subject to the revised rules.

**III. DOER should reduce the “Greenfield Subtractor” to a level that is based on the conservation value of land being used for solar.**

Although the new land use restrictions are the most alarming element of DOER’s new regulations, we continue to oppose DOER’s decision to double down on the flawed, imprecise “Greenfield Subtractor” as a tool for managing competing conservation and clean energy goals. The new proposed level for this subtractor far exceeds any reasonable estimate of the conservation value of the land on which projects are sited. Borrego estimates that the subtractor equates to roughly \$40,000 per acre for a 5 MW project.<sup>5</sup> Compared to the cost of conservation easements, typically \$5,000 to \$10,000 per acre for permanent conservation,<sup>6</sup> the subtractor level appears arbitrary. The increase in this penalty compounds the previously described problems created by the new blanket land use restrictions and will further reduce the number of ground-mounted projects that can move forward, particularly as base rates continue to decline to unsustainable levels.

Therefore, if DOER retains this arbitrary and imprecise approach in the final regulations, ***Borrego recommends that DOER revise the “Greenfield Subtractor” to its original***

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<sup>5</sup> To estimate the \$/acre equivalent of the “Greenfield Subtractor” for a typical Category 3, 5 MW project, Borrego first calculated the panel face area, in acres. We assume a typical module area of 21 square feet and efficiency of 380W/module. A project with capacity of 5 MW (5,000,000 W) divided by an efficiency of 380 W/panel results in a need for approximately 13,158 panels. That number of panels multiplied by 21 square feet, then converted to acres by dividing by 43,560 square feet per acre, results in a panel face area for the project of 6.34 acres. Borrego then used this value to calculate the Subtractor value. 6.34 acres of panel face area multiplied by the Category 3 subtractor of \$0.0025/kWh per acre results in a “Greenfield Subtractor” of \$0.0158/kWh. Next, Borrego calculated the 20-year present value of that subtractor. The annual production of a 5 MW project can be estimated by multiplying its capacity by a typical capacity factor of 13.4% and the hours in a year (8,760), which gives an annual production of 5,869,200 kWh per year. That annual production multiplied by the subtractor calculated for this project (\$0.0158/kWh), results in an annual subtractor cost of \$93,075.79. Using a discount rate of 7%, the 20-year present value of that subtractor is \$1,018,197.50. To normalize that 20-year subtractor present value by acres of land (different from the panel face area estimated previously), Borrego divided that total cost by an assumed 5 acres of land per MW, which equates to \$40,727.90/acre for the Greenfield Subtractor for a typical Category 3, 5 MW project.

<sup>6</sup> Borrego reviewed data from the following sources to generate this estimate: Report on land conservation spending in MA from '98 to '07 by the Defenders of Wildlife and Trust for Public Land (See Tables 2.1, 2.4, 2.5 and 2.6) *available at* [https://defenders.org/sites/default/files/publications/land\\_conservation\\_spending\\_in\\_massachusetts\\_in\\_relation\\_to\\_the\\_state\\_wildlife\\_conservation\\_strategy.pdf](https://defenders.org/sites/default/files/publications/land_conservation_spending_in_massachusetts_in_relation_to_the_state_wildlife_conservation_strategy.pdf); The Community Preservation Coalition Projects Database, *available at* <https://www.communitypreservation.org/databank/projectsdatabase/access>; and Massachusetts Department of Agricultural Resources Annual Reports, *available at* <https://www.mass.gov/service-details/mdar-annual-reports>.

***level—a level that would be more consistent with the conservation value of the land on which these projects are sited.***

**IV. DOER should allow Public Entity STGUs to be sited outside the municipality to which the offtake is subscribed and should allow owners to assign less than 100% of output to a single municipality or government entities.**

DOER's proposed changes to the Public Entity STGU rules appear to reflect the challenge that these projects have had under the current SMART rules. Although the Emergency Regulations make incremental progress, they will do little to reverse the trend of declining municipal projects because they fail to address two key challenges.

First, the majority of the state's municipal load is represented by densely populated municipalities that do not have enough land on which to locate cost-efficient ground-mounted solar projects. These municipalities will be largely unable to access cost-effective municipal clean power agreements unless they are allowed to partner with projects located outside of their geographic footprint—an option the current rules still would not allow.

Second, many small municipalities that may wish to enter into agreements with nearby solar projects lack sufficient load to utilize 100% of project output. Rather than forcing these municipalities into less beneficial arrangements with fewer, smaller, more expensive solar arrays that are precisely matched to their small loads, DOER should allow municipalities to join together to achieve better savings from larger arrays.

***For these reasons, Borrego recommends that DOER modify the Emergency Regulations to allow any project located on private property that subscribes 100% of its output to one or more municipalities served by the same electric utility to qualify as Public Entity STGUs.***



**V. DOER should adopt a fair process for assigning limited block capacity in cases where multiple projects apply for SOQs at the same time at the conclusion of group studies.**

As DOER is aware, the DPU recently approved changes to the state's interconnection tariff that will eventually result in hundreds of MW of projects being studied simultaneously through group studies. In addition, in the past year, the utilities began conducting large, combined ASO studies involving dozens more mature projects that could eventually be eligible for the SMART program. These fundamental changes in the interconnection process require DOER to consider how projects will be assigned block positions in the event that multiple projects simultaneously apply for limited block capacity in the SMART program at the conclusion of one of these large cluster studies.

Neither the Emergency Regulations nor the Guidelines include clear and equitable provisions for determining the queue position for projects included in group studies that receive their ISAs at the same time. In the absence of explicit provisions, the default would presumably be to order projects by the time at which they submitted their application, or perhaps when their applications were deemed complete. However, the combination of limited block capacity and potentially large numbers of projects being released from interconnection studies simultaneously could result in a run on the application process similar to the rushes we have seen when new programs open after significant delay. This rush could cause significant administrative issues for DOER and countless disputes that will require resources to resolve. In the worst cases, shovel-ready projects may get inferior queue positions than less-mature projects based on irrelevant factors such as internet connection speed.

***Therefore, we recommend that DOER clarify how queue position will be determined for projects receiving ISAs simultaneously at the conclusion of group or ASO studies.*** Our recommendation is that DOER establish a 10-day window beginning with the conclusion of each group or ASO study, during which projects receiving ISAs would all be considered to have applied at the same time. Because all projects in the same study will have the same ISA date, DOER should determine the queue position of qualifying projects at the end of the 10-day period in the order that those projects acquired non-ministerial permits. This approach will avoid unnecessary administrative strains and ultimately, determine queue position based on an easily distinguishable project maturity measure.

**VI. DOER should apply the “Solar Tracker Adder” to solar projects using single-axis trackers.**

As we have noted in previous comments, Borrego continues to observe that the SMART program is missing an opportunity to promote more efficient use of limited land and interconnection capacity by limiting the Solar Tracker Adder to dual-axis trackers. Unlike single-axis trackers, which are typically uneconomic in Massachusetts, but which could be more widely deployed with the correct incentive, dual-axis trackers are typically not viable without

significant additional civil grading costs—costs that outweigh the benefit being provided by the adder. Even with the “Solar Tracker Adder”, dual-axis trackers are not cost-effective because the Adder is not enough to overcome the additional grading costs necessary to use them. Conversely, if they were eligible for the adder, single-axis trackers could become an excellent way to reduce the footprint of solar projects and increase clean energy output without increasing interconnection capacity. As such, this simple change could be a powerful tool to address some of DOER’s land use concerns, as well as the mounting interconnection challenges that the state is facing.

***For these reasons, Borrego recommends that DOER apply the “Solar Tracker Adder” to projects that use either dual-axis or single-axis trackers.***

**VII. DOER should continue to designate as “Category 1 Non-Agricultural” ground-mounted STGUs that are sited within a solar overlay district or that comply with established local zoning that explicitly addresses solar or power generation.**

Borrego also opposes DOER’s revisions to the “Land Use and Siting Criteria” to change the designation of projects sited according to local solar zoning rules from Category 1 to Category 2. Though we appreciate that DOER is not completely ignoring local zoning rules by designating such projects as Category 3, the change in categories would still effectively penalize projects that have met stringent, locally determined rules for project siting, and would replace local authorities’ site-specific decisions with imprecise, broad-brush a priori determinations that such projects are not beneficial. While we understand that some stakeholders perceived the previous rule to have created a “loophole” to the land use provisions in SMART, we respectfully disagree that projects that have successfully navigated often stringent, well-thought-out local notice and siting processes that are specifically designed to address competing land uses and community preferences have taken advantage of a “loophole.” To the contrary, in most cases, projects that proceed through local solar zoning processes have in many cases been subject to multiple rounds of public and expert review, and have been approved only in cases where a majority of elected town officials have voted to approve these projects.

***For this reason, we recommend that DOER not adopt any changes to the previous Regulations’ treatment of projects that are sited pursuant to local zoning rules.*** Any challenges that towns are experiencing with zoning approvals would more appropriately be addressed through updated zoning guidance and through improvements to the local permitting process — not through top-down state-level directives that paint with a broad brush that is likely to be inappropriate in many situations.

## **Conclusion**

Borrego appreciates the opportunity to offer feedback on the changes in the Emergency Regulations and looks forward to continued dialogue on these important issues.

Sincerely,

Ilan Gutherz  
Vice President of Policy and Strategy

Sam Jasinski  
Director of Policy and Business Development, Northeast

Borrego Solar Systems, Inc.  
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## Appendix

### GIS Map Indicating Impact of New Land Use Prohibitions and Other Restrictions

