KEARSARGE ENERGY

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Tuesday, July 11, 2017

Judith Judson, Commissioner
Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Re: SMART COMMENTS

Dear Commissioner Judson:

On behalf of Kearsarge Energy, I thank you for the opportunity to provide comments on the proposed Solar Massachusetts Renewable Target (SMART) Program. Kearsarge Energy is a local, Massachusetts based solar energy company with offices located in Watertown, MA. We have financed and built over 60 MWs and $200 million of solar projects in partnership with public and private entities and nonprofits throughout the Commonwealth over the past several years under the SREC I and SREC II programs. We are proud to have contributed to the overall growth of the solar industry and to be headquartered in a state that values the environment and supports a robust clean energy economy. As you know, the health and sustainability of our industry's growth depends on the development and implementation of policies that can continue to attract private investment and create long-term certainty. As such I am writing to ask that the Department of Energy Resources ("DOER") continue to work on improving the Solar Massachusetts Renewable Target (SMART) program. Continued solar growth is critical to the Massachusetts economy and keeping our environment clean and safe for our families and future generations.

In this light, we offer some suggestions on ways to fundamentally refine the SMART program:

1) Setting the tariffs at a level that will encourage continued solar development and protect solar jobs in the Commonwealth. The competitive process to set these levels should be allowed a higher minimum ceiling of at least $0.175 per kWh to insure the entire program will work in the years to come. Please see enclosed Appendix 1, a pro forma project financial forecast, demonstrating a post-tax return of 3.7% under the current Base level ceiling price of $0.14 per kWh and a post-tax return of 7.1% under a ceiling price of $0.175. Without revision, the current SMART ceiling price will not attract private investment into the Massachusetts market, further stalling what has become a phenomenal growth industry and success story in the Commonwealth. A base level of $0.175 per kWh, as demonstrated in Appendix 1, allows for a return level more consistent with market expectations for attracting private investment in renewable energy assets.

2) At the same time, additional support (adders) for all categories of priority development, including landfill & brownfield, parking canopy, agricultural, community, and low-income solar and other priority development should be protected from decline over time to ensure continued and accelerated growth of these types of projects. The SMART program makes the assumption that costs will continue to decline at the same historical rate, without a clear mechanism for review should this assumption prove inaccurate. As shown in Appendix 1, a project receiving the base tariff rate of $0.14 per kWh will find it difficult to attract sufficient private investment. As the tariff and adders decline per block, as is currently

proposed, these projects will continue to become less economically feasible and unable to attract private investment. In addition, Massachusetts historically has been a higher cost state to do business in, so the same cost reductions seen in other areas of the country may not apply here.

The Base Level compensation set by the competitive process demonstrates the economic viability of the most straightforward type of development and therefore to promote priority development areas, SMART must allow for unhindered access to the full priority adders without declines. The Base level assumes no added construction, development or ongoing costs that are necessary to complete projects in the priority categories, i.e., extra steel for parking and agricultural canopies, ballasted construction and low ground pressure equipment for landfills, additional administrative workload and financing complexity for community solar, additional credit risk factors for affordable housing off-takers, etc.

3) Remove the adder caps. The 320 MW limit is arbitrary and limits the development of certain project types without justification. All categories of priority development, including landfill solar, parking canopy solar, agricultural solar, community solar, low-income solar and solar with storage should be encouraged as much as possible. We have seen the havoc arbitrary caps on solar development can cause the industry (i.e. solar net metering caps), and we strongly encourage the Department to do away with any caps and allow for the continued development of these priority projects. Caps on the total capacity of projects that can qualify for these adders and the cap on total adders any given project can use should both be removed. It is not clear to us that the 320MW caps that were "based on" SREC II deployment levels are a reasonable expectation for future development. Many categories of priority development projects were stalled in SREC II due to the filling of Net Metering Caps and otherwise would have been built. If the Department wishes to prioritize certain categories of solar development, which is a policy we agree with, we recommend the Department remove all limitations on such developments.

4) Encouraging the continued use of solar net metering to fairly compensate solar customers for their valuable solar power. The SMART program has not proposed any adequate replacement for net metering and will not be successful without the continued existence of fair and full compensation for solar customers in the Commonwealth. DOER should work with the legislature to raise net metering caps immediately.

5) SMART program compensation rates must be reviewed more frequently than the one-time review at the 400 MW threshold, per Section 20.07(6), in order to take into consideration updates for both cost decreases and increases in the solar market. For example, as a result of the current pending trade claim submitted by Suniva to the International Trade Commission, solar PV module prices may increase by as much as 200% by the end of 2017 if a tariff is instituted. Such an outcome, if SMART were to remain unchanged, would halt almost all solar development in the Commonwealth. Therefore we suggest the Department revise its rules to allow for reviews of the SMART compensation rates at a minimum of every six months as long as there is provision for projects in development at the time of such reviews to retain their allocation at the then current SMART incentive levels.

6) SMART Agricultural Adder project criteria must be better defined and more practical. It is unclear how the "50%" shade free rule will be applied. It is also unclear how the added clearance will improve prospects for agricultural cultivation. Higher racks will cast longer shadows, spreading solar arrays over

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a larger footprint and shading more of the vegetation between rows. In addition, the cap of 1 MW for such projects appears arbitrary. If the rules governing eligibility for solar consistent with best practices for integrating agricultural use are applicable on a 1 MW scale, then they should also be applicable on a 5 MW per project scale. In general, we believe the Performance Standards for Ground-Mounted projects, and in particular for Agricultural Units create a great deal of uncertainty and are not properly defined nor consistent with other stated Department goals. We strongly recommend the Department reevaluate these provisions with greater input from the industry, landowners and other stakeholders.

7) Performance Standards need to be clarified to provide greater certainty and specificity. For example, the blanket prohibition on concrete or asphalt or the restriction of only using ballast or screw-type pilings poses significant issues as each site is different and requires solutions unique to that site. Ballasts may be required for specific sites, such as Brownfields, and the prohibition of using concrete contradicts the goal of developing solar on otherwise unusable land. In addition, as currently written the regulations suggest that standard pile-driven racking systems would be prohibited, even though this type of system has very minimal impact on the land and is easily removed. Nearly all ground mount projects are required by local jurisdictions to file a decommissioning security and develop a detailed decommissioning plan, creating an additional check to ensure the land is restored to its original condition. Additional clarification on the definition of stripping of soils is also required as the vast majority of ground-mount solar projects, regardless of size, require some grading and moving of soil as with any type of standard construction activity.

8) We also object to the provision in Section 20.05(5)(f) prohibiting ground-mounted solar projects on contiguous parcels of land from qualifying for SMART. This provision will cause greater confusion and uncertainty in the market and hinder overall development, especially for projects that are currently under development for SMART. Therefore we suggest the Department strike this provision.

Thank you for your work to further advance Massachusetts' continued solar leadership. We appreciate the work the Department has done over the past months to development this program, and while it holds promise to help Massachusetts meet its clean energy goals, we believe further revision and refinement on critical items such as the ceiling prices, adder levels, caps, and performance metrics is required to fully reach our common goal of growing jobs and protecting our environment. I appreciate the opportunity to weigh in on the new SMART program and hope you will make these much needed improvements.

Sincerely,

Andrew Bernstein
Founder & CEO
Kearsarge Energy

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Appendix 1.

KEARSARGE ENERGY - CONFIDENTIAL

PROJECT COSTS

Project	**MA GROUND**	
Size (kW DC)	2,800	
Size (kW AC)	2,000	
Life (yrs)	20	
kWh/kWp	1,200	
1st Year Output (AC)	3,360,000	*13.70%*
Decay	0.50%	
Total Costs (EPC, Soft Development, Transaction, etc.)	**1.9000**	**$ 5,320,000**

REVENUE & EXPENSES ASSUMPTIONS

SMART Revenue	0.1400	0.00%
Expenses	$$$	Escalator
Total Operating Expenses Year 1	$ 158,000	
(Insurance, O&M, Inverter Replacement, Local Taxes, Lease, Accounting, Legal, Etc.)		
Taxes		
Federal	35.00%	
State	5.10%	
Blended	38.32%	

PROJECT LEVEL CASH FLOW

	Depreciation		*20.0%*	*32.0%*	*19.2%*	*11.5%*	*11.5%*	*5.8%*															
		0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
kWh			3,360,000	3,343,200	3,326,484	3,309,852	3,293,302	3,276,836	3,260,452	3,244,149	3,227,929	3,211,789	3,195,730	3,179,751	3,163,853	3,148,033	3,132,293	3,116,632	3,101,049	3,085,543	3,070,116	3,054,765
SMART Revenue ($/kWh)			0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.140
Revenue		$	470,400	$ 468,048	$ 465,708	$ 463,379	$ 461,062	$ 458,757	$ 456,463	$ 454,181	$ 451,910	$ 449,650	$ 447,402	$ 445,165	$ 442,939	$ 440,725	$ 438,521	$ 436,328	$ 434,147	$ 431,976	$ 429,816	$ 427,667
Operating Expenses		$	158,000	$ 160,264	$ 162,591	$ 164,983	$ 167,439	$ 169,961	$ 172,550	$ 175,208	$ 177,934	$ 180,731	$ 183,598	$ 186,538	$ 189,551	$ 192,639	$ 195,803	$ 199,044	$ 202,363	$ 205,762	$ 209,241	$ 212,803
EBITDA		$	312,400	$ 307,784	$ 303,117	$ 298,397	$ 293,623	$ 288,796	$ 283,913	$ 278,973	$ 273,976	$ 268,920	$ 263,804	$ 258,627	$ 253,388	$ 248,086	$ 242,718	$ 237,285	$ 231,784	$ 226,215	$ 220,575	$ 214,864
Depreciation (MACRS 5 Yr Accelerated)		$	921,200	$ 1,473,920	$ 884,352	$ 530,611	$ 530,611	$ 265,306														
EBT		$	(608,800)	$ (1,166,136)	$ (581,235)	$ (232,214)	$ (236,988)	$ 23,490	$ 283,913	$ 278,973	$ 273,976	$ 268,920	$ 263,804	$ 258,627	$ 253,388	$ 248,086	$ 242,718	$ 237,285	$ 231,784	$ 226,215	$ 220,575	$ 214,864
FedState Taxes		$	233,262	$ 446,805	$ 222,700	$ 88,973	$ 90,802	$ (9,000)	$ (108,781)	$ (106,889)	$ (104,974)	$ (103,037)	$ (101,077)	$ (99,093)	$ (97,086)	$ (95,054)	$ (92,997)	$ (90,916)	$ (88,808)	$ (86,674)	$ (84,513)	$ (82,325)
Income		$	545,662	$ 754,589	$ 525,817	$ 387,370	$ 384,425	$ 279,796	$ 175,132	$ 172,085	$ 169,002	$ 165,883	$ 162,728	$ 159,534	$ 156,302	$ 153,032	$ 149,721	$ 146,369	$ 142,976	$ 139,540	$ 136,062	$ 132,539
FED ITC (30% of Eligible Energy Property Costs)		$	1,428,000																			
Cash (pretax)		$ (5,320,000)	$ 312,400	$ 307,784	$ 303,117	$ 298,397	$ 293,623	$ 288,796	$ 283,913	$ 278,973	$ 273,976	$ 268,920	$ 263,804	$ 258,627	$ 253,388	$ 248,086	$ 242,718	$ 237,285	$ 231,784	$ 226,215	$ 220,575	$ 214,864
Cash (post tax)		$ (5,320,000)	$ 1,973,662	$ 754,589	$ 525,817	$ 387,370	$ 384,425	$ 279,796	$ 175,132	$ 172,085	$ 169,002	$ 165,883	$ 162,728	$ 159,534	$ 156,302	$ 153,032	$ 149,721	$ 146,369	$ 142,976	$ 139,540	$ 136,062	$ 132,539

PROJECT RETURNS

	Pre Tax	Post Tax
Internal Rate of Return (20 Years)	**0.0%**	**3.7%**

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PROJECT COSTS

Project	**MA GROUND**
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Size (kW AC)	2,000
Life (yrs)	20
kWh/kWp	1,200
1st Year Output (AC)	3,360,000
Decay	0.50%

Total Costs (EPC, Soft Development, Transaction, etc.) **1.9000** **$ 5,320,000**

REVENUE & EXPENSES ASSUMPTIONS

SMART Revenue	0.1750	0.00%
Expenses	$$$	Escalator
Total Operating Expenses Year 1	$ 158,000	
(Insurance, O&M, Inverter Replacement, Local Taxes, Lease, Accounting, Legal, Etc.)		
Taxes		
Federal	35.00%	
State	5.10%	
Blended	38.32%	

PROJECT LEVEL CASH FLOW

	Depreciation		20.0%	32.0%	19.2%	11.5%	11.5%	5.8%													
		0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
kWh			3,360,000	3,343,200	3,326,484	3,309,852	3,293,302	3,276,836	3,260,452	3,244,149	3,227,929	3,211,789	3,195,730	3,179,751	3,163,853	3,148,033	3,132,293	3,116,632	3,101,049	3,085,543	3,070,116	3,054,765
SMART Revenue ($/kWh)			0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175
Revenue		$	588,000	$ 585,060	$ 582,135	$ 579,224	$ 576,328	$ 573,446	$ 570,579	$ 567,726	$ 564,888	$ 562,063	$ 559,253	$ 556,456	$ 553,674	$ 550,906	$ 548,151	$ 545,411	$ 542,684	$ 539,970	$ 537,270	$ 534,584
Operating Expenses		$	158,000	$ 160,264	$ 162,591	$ 164,983	$ 167,439	$ 169,961	$ 172,550	$ 175,208	$ 177,934	$ 180,731	$ 183,598	$ 186,538	$ 189,551	$ 192,639	$ 195,803	$ 199,044	$ 202,363	$ 205,762	$ 209,241	$ 212,803
EBITDA		$	430,000	$ 424,796	$ 419,544	$ 414,242	$ 408,889	$ 403,485	$ 398,029	$ 392,518	$ 386,953	$ 381,333	$ 375,655	$ 369,919	$ 364,123	$ 358,267	$ 352,348	$ 346,367	$ 340,321	$ 334,209	$ 328,029	$ 321,781
Depreciation (MACRS 5 Yr Accelerated)		$	921,200	$ 1,473,920	$ 884,352	$ 530,611	$ 530,611	$ 265,306														
EBT		$	(491,200)	$ (1,049,124)	$ (464,809)	$ (116,370)	$ (121,722)	$ 138,179	$ 398,029	$ 392,518	$ 386,953	$ 381,333	$ 375,655	$ 369,919	$ 364,123	$ 358,267	$ 352,348	$ 346,367	$ 340,321	$ 334,209	$ 328,029	$ 321,781
FedState Taxes		$	188,203	$ 401,972	$ 178,091	$ 44,587	$ 46,638	$ (52,943)	$ (152,505)	$ (150,393)	$ (148,261)	$ (146,108)	$ (143,932)	$ (141,734)	$ (139,514)	$ (137,270)	$ (135,002)	$ (132,710)	$ (130,394)	$ (128,052)	$ (125,684)	$ (123,290)
Income		$	618,203	$ 826,768	$ 597,635	$ 458,829	$ 455,527	$ 350,542	$ 245,524	$ 242,125	$ 238,692	$ 235,225	$ 231,723	$ 228,184	$ 224,609	$ 220,997	$ 217,346	$ 213,656	$ 209,927	$ 206,157	$ 202,345	$ 198,490
FED ITC (30% of Eligible Energy Property Costs)		$	1,428,000																			
Cash (pretax)		$ (5,320,000)	$ 430,000	$ 424,796	$ 419,544	$ 414,242	$ 408,889	$ 403,485	$ 398,029	$ 392,518	$ 386,953	$ 381,333	$ 375,655	$ 369,919	$ 364,123	$ 358,267	$ 352,348	$ 346,367	$ 340,321	$ 334,209	$ 328,029	$ 321,781
Cash (post tax)		$ (5,320,000)	$ 2,046,203	$ 826,768	$ 597,635	$ 458,829	$ 455,527	$ 350,542	$ 245,524	$ 242,125	$ 238,692	$ 235,225	$ 231,723	$ 228,184	$ 224,609	$ 220,997	$ 217,346	$ 213,656	$ 209,927	$ 206,157	$ 202,345	$ 198,490

PROJECT RETURNS

	Pre Tax	Post Tax
Internal Rate of Return (20 Years)	3.8%	**7.1%**