



March 20, 2013

Governor Deval Patrick
Massachusetts State House
Office of the Governor
Room 28
Boston, MA 02133

Re: Massachusetts SREC/RPS Program and Post 400 MW Policy

Dear Governor Patrick:

Despite the best intentions and efforts of your administration, the legislature, the Massachusetts Department of Public Utilities and the Department of Energy Resources, the RPS Solar Carve-Out program designed to generate incentives in the form of Solar Renewable Energy Certificates (SREC's) is presently not financeable because there is no long-term guaranty to the value of SREC's.

Banks within the Commonwealth and national firms that specialize in renewable energy finance have zero confidence in the ability of the MA SREC market to match the supposed "floor" price of \$300 per MW. The floor price is considered to be non-existent.

With all the best intentions in establishing a market based SREC program, the Commonwealth has confused market forces with an incentive program. Electricity is a commodity; SRECs are an incentive. An incentive program that is not financeable is no program at all.

While projects are being completed, they are limited in numbers, are smaller, require little infrastructure, are "behind" the meter, and the project owner must be willing to take SREC spot market risk.

The US Treasury Investment Tax Credit (ITC) program is attracting investors to the market that otherwise would never invest in renewable energy due to the low returns and short track record. The ITC program, as currently written expires in 2016. The Commonwealth should be trying to install as much solar and renewable energy projects as possible while this program is still in place.

MA DOER has opened a comment period to make changes to the existing SREC program. DOER is also searching for a program solution once the 400 MW solar program cap ends.

Issues surrounding the SREC market, the 400 MW Cap and other renewal energy technologies should not be considered as separate and distinct ideas but



require an integrated policy solution. Every industry advocates for its own solutions. What is required is a broader concept.

Based upon programs in place with the Department of Defense (to have 25% of its energy come from renewable technologies by 2025), California's RPS program (renewable energy resources to be 33% of total procurement by 2020) and the success and determination that Germany has in moving its energy consumption to renewables and away from coal and nuclear, my recommendations are as follows:

I. Massachusetts should have 20% of its operating energy capacity come from renewable sources by 2020; 25% by 2025; 30% by 2030; and 40% by 2040. (In contrast to a reduction of 20% from 1990 baseline emissions)

This policy will send a clear signal to all stakeholders, banks, taxpayers, regulators, utilities, training institutions, career choices of taxpayers, businesses and skilled labor forces, that a stable policy is in place and will not be subject to the boom and bust risk of political/regulatory cycles.

Such an RPS/APS policy would also provide for:

- a) a stable bankable industry with long-term goals
- b) a basis upon which grid planning can be implemented by utilities, regulators, ISO-NE, inventors, manufacturers and renewable energy businesses and developers
- c) a market for investment in storage of intermittent energy generation
- d) credits for thermal energy generated with renewable fuels similar to the concept filed by Barry R. Finegold, Senate Docket No. 1135, filed on 1/18/2013.
- e) Adjustment of the forward capacity market to adjust to increased installed capacity of renewable energy.

II. Debt and equity participants require long-term contracts, to underwrite project loans. An extended term, coterminous with the length of the SREC program, floor price of \$300 (\$285 net) per MW net needs to be established.

If an SREC program is to be continued as opposed to a Feed-in-Tariff, (FIT) regulations should establish a floor price of \$285 net for all competitive suppliers and utility companies by regulation. An option would be to have the utility companies be the floor-price provider of last resort.

Banks eager to finance renewable energy require a stable source of revenue to justify a loan based upon the strength of the project with usual debt coverage ratios, not on the balance sheet of a wealthy person or organization. Most companies required financing.

A floor price will allow financial institutions to underwrite loans based upon certain base line revenue that can be achieved through long-term contracts. With a floor price the investment banking community will develop other investment vehicles to infuse capital into this sector. Such infusions will be based upon the confidence of the market and may be crucial to the success of the program after expiration of the ITC in 2016.

- III. Third parties other than the original REC and SREC generators need to be allowed to own, take possession and trade generated REC's and SREC's.** This will encourage development of financing vehicles around the renewable energy market providing liquidity in market development and the event of defaults.

- IV. Establishment of a long-term renewable energy policy will provide the Department of Public Utilities with a longer view of utility renewable energy management requirements.**

The utilities' fear of not being reimbursed for expenses relative to manpower and management to process interconnect applications and make final connections has caused extremely long delays in the commissioning of all kinds of renewable energy projects.

Having a RPS/ APS program without caps will allow for market stability, regulatory and infrastructure planning.

- V. Net Metering should continue to be a ubiquitous part of the grid system.**

Net metering is an enabler of renewable energy installation and investment. There should be no public or private caps on net metering beyond the transmission and distribution system constraints. Discussions about the economics on net metering can be dealt with within the context of a long-term RPS program.

- VI. Having a long-term, defined, stable, RPS program benefits all renewable energy technologies - small and large businesses alike.**

Under the current system with a cap, large businesses and small businesses are pitted against one another because the larger companies consume the cap faster.

- VII. Within the limits of the floor price, the Department of Public Utilities would allow as a matter of course, the utilities to enter into long-term contracts with neutral balance sheet implications because the purchase obligation would be on an as-generated, if-generated basis.**

Presently, the utility companies are not authorized to make long-term contracts to purchase SRECs. Under the current market conditions, why



would a utility company purchase SREC's at the floor of \$285 per MW when they can purchase them at the distressed price of \$160 per MW?

VIII. A well defined, long-term RPS program, with long-term SREC contracting capability and an established floor price will go a long way to enhancing confidence in tax-payers who invest in renewable energy, that the program is not subject to political risk.

(True story) What do you tell a factory owner, in the Commonwealth:

- a) Who borrowed the money to take his/her factory net zero energy consumption,
 - b) Who based his proforma on the so-called floor price of \$285 per MW net when SREC's were selling for over \$400 the year before and,
 - c) Waited 5-months for the interconnect agreement, plus another 4 months for a minor transformer location change with the utility,
 - d) And now he needs to come out of pocket to pay his note because of delays with no offsetting energy savings and a depressed SREC market with a spot market price between \$190 - \$200 per MW?
- What do you tell this renewable energy end-user investor about the legislative and regulatory support for his/her investment?

IX. SREC Program Term.

There may be pressure to reduce the SREC program term over time for political reasons. It would be better to leave the SREC term at 10-years and encourage the inclusion of intermittent energy storage as an inducement to the utilization of this technology that is currently not cost effective. It will take years for this technology to be implemented cost effectively, so the policy is going to need to be flexible.

The cost of solar PV panels is no longer the driving cost in system delivery. The combined cost of labor, completion of all work in compliance with MA laws and regulations, operational cost, such as local excise taxes on net-metered systems providing power off-site, racking systems to meet MA construction zone requirements, financing cost and the cost of equity, all contribute to a cost structure that will not mirror cost reductions as seen with polycrystalline silicon technology reaching market scale proportions.

X. Use MassACA As A Regulatory and Statutory Benchmark of System Eligibility.

The current **MassACA, System of Assurance of Net Metering Eligibility**, could be used as a dependable grandfathering mechanism to accommodate policy and regulatory change over time. Once a completed filing is in place, banks, lenders and policy makers could depend on a stable set of rules upon which to depend for each respective project.



Again, political risk is removed and a legal and policy structure is in place upon which an extended term of financing is able to rely.

XI. Authorize DPU To Set Parameters Allowing the Utilities To Operate At The Speed of Business.

The adoption of a long-term renewable energy policy will allow DPU to authorized utilities to enter into long-term contracts at or below a floor price. A long-term renewable energy policy will allow utilities to receive authorization from DPU for manpower and management to manage renewable energy generation applications and commissioning in a timely, operating-at-the-speed of business fashion. The budget for DPU may need to be increased to handle increased workload.

XII. Support Federal Legislative Efforts To Define Renewable and Thermal Energy Generation - A Public Good, Qualifying For Tax-Exempt Financing Status.

Adoption of a long-term renewable energy policy will see many economic cycles; having tax-exempt status will enhance all renewable energy market sectors.

Direct responses to DOER, Massachusetts Solar Market, Post -400 MW Solar Program Policy Design, Re: Stakeholder Meeting, March 22, 2013 are attached.

Establishing a long-term renewable energy policy, with long-term contracts for all renewable energy technologies, supported by a floor price for solar PV will deliver the promise offered by the first Green Communities Act and provide for long-term suppression of energy cost by the use of renewable energy.

I would welcome the opportunity to discuss my views further or clarify any of my thoughts above.

Sincerely,

A handwritten signature in blue ink, appearing to read "G. Douglas Pope", written in a cursive style.

G. Douglas Pope
President

cc: doer.srec@state.ma.us
cc: Dwayne Breger, Ph.D., DOER
cc: Bram Claeys, DOER
cc: Mike Judge, DOER
cc: Mark Martini, DPU



Direct responses to:

DOER, Massachusetts Solar Market, Post -400 MW Solar Program Policy Design, Re: Stakeholder Meeting, March 22, 2013

The purpose of this response is to change how DOER, DPU and the state legislature approaches long-term goals in achieving a strategic, decentralized, installed base of renewable energy within the Commonwealth. Is the Commonwealth going to have a renewable energy policy just to say we have one, or are we going to have a program to make a significant difference?

DOER: Provide economic support and market conditions to maintain and expand PV installations in MA.

If a policy were adopted that created the structure for 20% of installed and operating capacity, in Massachusetts, was provided by renewable energy by 2020, 25% by 2025, 30% by 2030 and 40% by 2040, then all of the planning, legislation and implementation would have long-term prospective. DOER would not have to re-write an entire program every three years.

In 2007, Basic Service as approved by DPU, for NSTAR, NEMA load zone was an average of **0.11230** per kWh; in 2008, **0.1278**; in 2009, **0.108933**; in 2010, **0.084022**; in 2011, **0.074855**; in 2012, 0.07269 and to date in 2013, **0.0698**. Current competitive supplier rates responding to higher natural gas prices this winter are currently in the range of 0.0812 per kWh.

Cost of electricity currently passed on to ratepayers through distribution utilities	
Transition	.00984
Renewable Energy	.00050 (five one hundredths of one cent)
Energy Conservation:	.00250

Commercial customers pay 0.0042

Massachusetts has seen substantially higher electricity cost in the recent past. Renewable energy is known to suppress future energy prices. We should take advantage of current lower natural gas prices and have lower fossil fuel prices underwrite a significant renewable energy portfolio.

The primary function of ISO-NE is reliability and all systems must comply with the needs to these parameters. The inertia of the ISO-NE forward capacity market is going to be segued towards the lowest cost of energy which are fossil fuels. The Commonwealth is going to have to demand from ISO a structure that recognized



and accepts a renewable energy portfolio. A long-term plan will start the process of recognizing the reality of renewable energy being a significant contributor to the installed capacity within Massachusetts. The concept of the lowest cost of energy as the only criteria for energy consumption is the reason we have the Green Communities Act.

DOER: Two Primary Policy Options

Central Procurement contracts are a bad idea. They create a barrier to entry and slow down entrepreneurial initiative; it would create another hurdle to clear in the path of starting a solar PV or larger scale renewable energy project developed. Ultimately the political process could make this method of procurement similar to the Chapter 149 public construction statutes currently in place. A central procurement process could be subject to constant appeal. The utilities have a difficult time processing and approving interconnect agreements, they do not need another process to evaluate and award contracts to complete their mission.

We are currently experiencing difficulty in holding landowners and building owners in place in CT for the ZREC program. The program is highly structured, too small with no operational continuity, too infrequent and is not a program to make a significant difference.

The SREC program should have a floor of \$285 net, should go for ten years or have a Feed-In Tariff at the same level. As previously stated, as time goes on consideration should be made for a certain percentage of storage to be employed at the solar site to accommodate voltage variances for intermittent cloud cover. Having SREC support to encourage grid reliability is a good use of ratepayer funds.

Financing entities / investors require long-term contracts with dependable revenue.

If utilities are to issue long-term contracts, they should be issued for the sole purpose of facilitating the construction financing of new solar and renewable energy contracts in Massachusetts through the purchase of green attributes generated in Massachusetts, not energy, which is a cross border commodity.

DOER: One SREC Market or Two?

One market, \$285 floor capable of at ten-year SREC revenue source with the 20%, 25%, 30% 40% installed and operating capacity established as a policy.

Along with the concept of introducing storage compliance over time, with waivers given by DOER for reason, along with inflation of 2-3% per year overtime should address the requirement for lowering the SREC term or values.



DOER: Auction Mechanism – Firming The Floor

Distribution Utilities purchasing SREC's that remain un-cleared is a good idea as long as there is no time delay. SREC's should be paid quarterly in arrears.

There is no room in the pricing to be capitalizing interest for a year or two to get paid on SREC's generated.

If there is a floor price established, and no caps, ACP levels could be reduced.

DOER: Regulating Incentive Value As PV Cost Decline

The cost of panels has declined drastically and for a volume project, Tier 1, PV panels are in the 0.65 - 0.68-cent range per watt. Pricing for solar systems is no longer driven by the cost of the panels as code and regulatory compliance, labor cost, land cost, lease rates for roofs, system engineering, financing cost are not going to remain low for long.

For example, a ground mount racking system south of the Mason Dixon line is going to be less costly than a system in Massachusetts because they do not have to worry about hurricane winds and snow loads.

Interest rates are currently at historic lows. A rise in the prime rate in years ahead is going to affect rates charged to solar projects.

Inflation, interest rates and the introduction of storage will address SREC cost reduction issues.

DOER: Carve-Out Generation – SREC Factor

What are the goals? Installed capacity at 20%, 25%, 30%, and 40%?

This section seems to be pre-destined to have some arbitrary limit established as opposed to a larger plan. Adoption of a larger plan, DOER will not have to re-invent a new program every three years.

DOER: Maintaining Market Sector Diversity

What are the goals? Installed capacity at 20%, 25%, 30%, and 40%?

With larger, more forward-looking goals all sectors will be able to served without regulatory impedance.

DOER: Other Considerations for Carve-Out Design Revisions

Opt-In Term should be fixed and not subject to formulaic adjustment.



Any project listed on the MassACA website would be grandfathered into the programs available at the time of registration. The project could opt-in to the new program but would be backstopped by MassACA registration. Banks and investors will look for this stability.

Once a project is through the 10-year SREC program it will move over to a Class I Status. What are the goals? Installed capacity at 20%, 25%, 30%, and 40%? This should provide an undergirding of support for the value of Class I REC values.

DOER: Central Procurement –Options

What are your goals? If there is a long-term goal to achieve, a floor price and a utility taker of last resort, why is there a need for competitive standard contracts?

If a bone-fide submission is made, the utilities should have pre-authorization to sign the contract if the contract price is at or below the floor price.

A Feed-in Tariff may work as well. However, this author is unfamiliar with all of the issues surrounding a FIT.

Central Procurement as a basis for long-term goals is not advantageous and should be avoided.

DOER: The Next Cap

With long-term goals there should not be a cap.

The only restrictions on the market should be to incentivize the strategic, decentralized installation of solar, geothermal, cogeneration, anaerobic, biomass and other APS systems in the Commonwealth. By sourcing green attributes generated in Massachusetts and not energy, hopefully the TransCanada vs. MA Commerce Clause issue as described in the DOER report written by Peregrine Energy Group, Page 12, sec 3 Study on Long-Term Contracting Under Section 83 of the Green Communities Act can be avoided.

DOER: Other Policy Issues

The concept of "Forward Minting" of SREC's is a good one and deserves consideration. Interesting financial instruments may be developed off of this concept.