Helping Massachusetts Municipalities Create a Cleaner Energy Future

COMMONWEALTH OF MASSACHUSETTS

Charles Baker, Governor
Matthew Beaton, Secretary
Judith Judson, Commissioner

SMART Update

What municipalities need to know

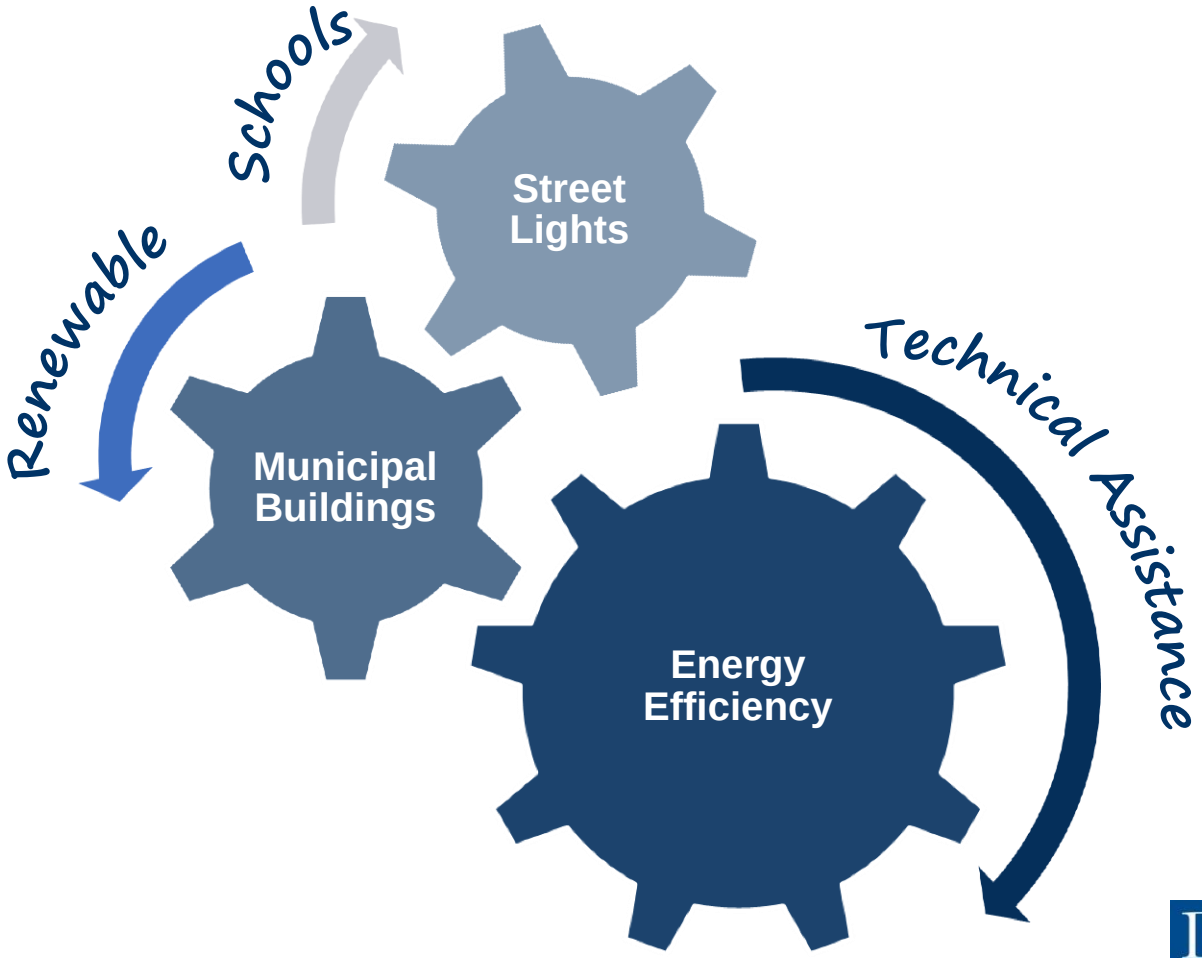
Green Communities Division Webinar

December 6, 2018

Kaitlin Kelly – Solar Programs Manager

Green Communities Division

The energy hub for ***all*** Massachusetts cities and towns, not just designated "Green Communities."



GREEN COMMUNITIES
Massachusetts Department of Energy Resources

Helping Massachusetts Municipalities Create a Clean, Affordable, and Resilient Energy Future

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Green Communities Division -
Programs & Resources for Municipalities

- Green Communities Designation and Grant Program
- MassEnergyInsight energy tracking and analysis tool
- Municipal Energy Technical Assistance
- Energy Management Services Procurement Oversight
- Website filled with tools & resources:
- www.mass.gov/orgs/green-communities-division-massdoer

Email updates via e-blasts – Sign up by sending an email to:

join-ene-greencommunities@listserv.state.ma.us

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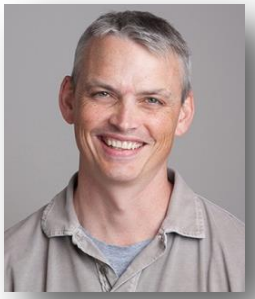
Outreach - Regional Coordinators

- Regional Coordinators act as direct liaisons with cities and towns on energy efficiency and renewable energy activities
- Located at each of the DEP Regional Offices:

WERO – SPRINGFIELD: Jim Barry
Jim.Barry@state.ma.us



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Recording & Presentation

- The webinar is being recorded and will be available on our website in approximately 48 hours at: www.mass.gov/orgs/green-communities-division-massdoer
- Click on the camera icon top right of your screen to save any slides for future reference
- Use the Q & A icon on your screen to type in questions

Contact Information

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Email updates via listserv – Sign up by sending an email to:

join-ene-greencommunities@listserv.state.ma.us

Basic Features of SMART Program

- 1,600 MW AC declining block tariff program that provides fixed Base Compensation Rates to qualified generators
- Base Compensation Rates decline as Capacity Blocks are filled
- Applies to all investor owned electric distribution companies
- The amount of time a facility may receive compensation under the tariff is based on facility's AC rated capacity
  - 10-year term for facilities less than or equal to 25 kW AC
  - 20-year term for facilities larger than 25 kW AC
- Compensation structure differentiated between behind-the-meter and standalone facilities
- Four types of Compensation Rate Adders are available to eligible facilities:
  - Location Based Adders
  - Off-taker Based Adders
  - Energy Storage Adder
  - Solar Tracking Adder
- Maximum project size of 5 MW AC per parcel

Additional Program Features

- Initial Base Compensation Rates were established using the results of a competitive procurement for larger projects (> 1 MW) and were announced on January 11, 2018
- Base Compensation Rates are based on a facility's electric distribution company and Capacity Block
- Eligible projects may elect to receive compensation for energy through one of three mechanisms:
  - Net metering (via Net Metering Tariffs)
  - Qualifying facility tariff (via QF Tariffs)
  - Alternative on-bill crediting mechanism (via SMART Tariffs)
- Alternative on-bill crediting mechanism is a new energy compensation option that is designed to be an alternative to virtual net metering
- Alternative on-bill credit is not available to facilities with on-site load

Additional Program Features

- Program design steers projects towards optimal locations by providing Location Based Adders and Greenfield Subtractors
  - A Greenfield Subtractor will be applied to the Base Compensation Rate of any facility sited on open space that does not meet the criteria to receive the full incentive
- Energy storage will be compensated via variable adder that is based on the ratio of storage capacity to solar capacity as well as the duration of the storage
  - Minimum performance standards will apply to ensure grid benefits are realized

Poll Question #1

- **What service territory are you located in?**
  - Unitil
  - Eversource East
  - Eversource West
  - National Grid/Nantucket
  - Municipal Light Department

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Factors that Establish a Solar Tariff Generation Unit's Total Compensation Rate

- Electric Distribution Company Service Territory
  - Base Compensation Rates are differentiated by electric distribution company service territory
- Capacity Block
  - Base Compensation Rates are differentiated by Capacity Block, which are established for each service territory and may be subscribed faster in one service territory than another
- Facility's AC Rated Capacity
  - Base Compensation Rates are also differentiated by system size
- Compensation Rate Adder Eligibility
  - Depending on its rate capacity, a facility may be eligible to receive one or more Compensation Rate Adders
- Greenfield Subtractor Applicability
  - If a facility falls under Category 2 or Category 3 Land Use, it will be subject to a Greenfield Subtractor (see slides 14-17)
- Behind-the-Meter Facility vs. Standalone Facility
  - While being classified as Behind-the-Meter vs. Standalone does not change the total compensation rate for which a facility is eligible under the tariff, the actual incentive payment is calculated differently depending on whether the facility serves an on-site load or exports 100% of its output to the electric grid

Compensation Rate Adders

- There are four categories of Compensation Rate Adders
  - Location Based Adders
  - Off-taker Based Adders
  - Energy Storage Adder
  - Solar Tracking Adder
- Systems larger than 25 kW AC may qualify for one adder from each category
- Systems less than or equal to 25 kW AC may only qualify for the Energy Storage adder
- More details on the eligibility criteria for certain adders can found in the following DOER Guidelines
  - *Definition of Agricultural Solar Tariff Generation Units Guideline*
  - *Definition of Brownfield Guideline*
  - *Energy Storage Adder Guideline*
  - *Low Income Generation Units Guideline*
  - *SQ and Capacity Block Reservation Guideline*
- These Guidelines are published at:
  https://www.mass.gov/service-details/development-of-the-solar-massachusetts-renewable-target-smart-program

Adder Values

Location Based Adders	
Type	**Adder Value ($/kWh)**
Agricultural	$0.06
Building Mounted	$0.02
Brownfield	$0.03
Floating Solar	$0.03
Landfill	$0.04
Solar Canopy	$0.06

Off-taker Based Adders	
Type	**Adder Value ($/kWh)**
Community Shared Solar (CSS)	$0.05
Low Income Property Owner	$0.03
Low Income CSS	$0.06
Public Entity	$0.02

Energy Storage Adder	
Type	**Adder Value ($/kWh)**
Storage + PV	Variable

Solar Tracking Adder	
Type	**Adder Value ($/kWh)**
Solar Tracking	$0.01

- Adder values will decline by 4% as adder tranches are filled
- The first adder tranche is 80 MW for each adder
- Subsequent tranche sizes will be established by DOER
- More information on adder values and future tranche sizes can be found in DOER's Guideline on Capacity Blocks, Base Compensation Rates, and Compensation Rate Adders

Capacity Block and Adder Progression

Capacity Blocks

- Assigned on rolling basis
- If a project covers two Capacity Blocks, a unique prorated rate will be assigned
- Capacity that becomes available will be added to current open block

Adder Tranches

- Assigned on rolling basis
- First adder tranche of 80 MW secured based on PV size of project
- If project covers two Adder Tranches, project will fall into tranche with majority of eligible capacity
  - e.g. 600 kW left in Tranche 2, 1 MW project applies and fully qualifies in Tranche 2, Tranche 3 is reduced by 400 kW”

Land Use Categories

- All systems are categorized according to land use
  - Category 1: No Greenfield Subtractor
  - Category 2: Greenfield Subtractor of $0.0005/acre impacted
  - Category 3: Greenfield Subtractor of $0.001/acre impacted
- Area impacted determined by the square footage of the PV panels
- Category is determined based on multiple factors such as, but not necessarily limited to the following:
  - Is the system located on Land in Agricultural Use?
  - What is the size of the system?
  - Is the system ground mounted?
  - What is the existing condition of the land?
  - What is the zoning of the land?
- More information can be found in DOER's *Guideline on Land Use and Siting*, which can be downloaded at:

  https://www.mass.gov/service-details/development-of-the-solar-massachusetts-renewable-target-smart-program

Category 1 Land Use

- No Greenfield Subtractor applies to Category 1 Land Use facilities
- Facilities located on Land in Agricultural Use or on Prime Agricultural Farmland can only be classified as Category 1 if they one or more of the following:
  - An Agricultural Solar Tariff Generation Unit
  - A Building Mounted Solar Tariff Generation Unit
  - Are sized to meet no greater than 200% of annual operation load of a farming operation
- Land in Agricultural Use is defined as:

  All land as defined under M.G.L. c. 61A, §§ 1 and 2, enrolled in a program established pursuant to M.G.L. c. 61A, and land that had been enrolled in a program established pursuant to M.G.L. c. 61A within the past five years.
- Prime Agricultural Farmland is defined as:

  Those soils identified by the United States Department of Agriculture Natural Resources Conservation Service to be prime farmlands pursuant to 7 CFR § 657.5(a).
- Facilities located on land that is not determined to be Land in Agricultural Use or Prime Agricultural Farmland can be classified as Category 1 if they meet one or more of the following criteria:
  - Have a capacity of less than or equal to 500 kW AC
  - Are a Building Mounted Solar Tariff Generation Unit
  - Are sited on a Brownfield
  - Are sited on an Eligible Landfill
  - Are sited on land that has been previously developed, as defined by the Department
  - Are sited on land that complies with local zoning that explicitly addresses solar

Category 2 Land Use

- Facilities are classified as Category 2 Land Use if they are sited on land that that has not been previously developed and is zoned for commercial and industrial development
- Category 2 Land Use facilities are subject to a Greenfield Subtractor of $0.0005/acre impacted

Category 3 Land Use

- Facilities that do not meet the criteria to qualify as Category 1 or Category 2 Land Use shall be designated as Category 3 Land Use
- Category 3 Land Use facilities are subject to a Greenfield Subtractor of $0.001/acre impacted
- Only applicable to facilities with capacities larger than 500 kW AC and less than or equal to 5 MW AC
- Facilities located on Land in Agricultural Use or Prime Agricultural Farmland that do not meet the criteria to qualify as Category 1 Agricultural Land Use will be categorized as Category 3 Land Use

Category 3 Land Use

- Facilities that do not meet the criteria to qualify as Category 1 or Category 2 Land Use shall be designated as Category 3 Land Use
- Category 3 Land Use facilities are subject to a Greenfield Subtractor of $0.001/acre impacted
- Only applicable to facilities with capacities larger than 500 kW AC and less than or equal to 5 MW AC
- Facilities located on Land in Agricultural Use or Prime Agricultural Farmland that do not meet the criteria to qualify as Category 1 Agricultural Land Use will be categorized as Category 3 Land Use

Poll Question #2

- **Do you have a project that is currently in the SMART Queue?**
  - Yes
  - No

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Incentive Payments

- The Incentive Payment Effective Date will be set in final Statement of Qualification
  - Incentive Payment Effective Date reflects first day production is eligible to receive incentive payments and generate Class I RECS
  - Is generally the same as a project's Commercial Operation Date
- Incentive payments will begin to be paid within three billing cycles of claim approval
- Incentive payments made on a monthly basis, via check or electronic funds transfer
  - Applicant chooses whether to receive check or ACH
- Incentive payments have a 90-day lifespan
  - If recipient of incentive payments changes, information for the new recipient must be provided expeditiously to avoid loss of incentive payments
- Behind-the-Meter Systems
  - Must have confirmation that EDC meter is installed before claim can be approved

Incentive Payments: Standalone vs. Behind-the-Meter

- **Standalone facilities:** Any facility with no associated load other than parasitic or station load
  - Net Metered, Alternative On-bill Credit, and Non-net Metered Solar Tariff Generation Units
  - Incentive payment varies over life of project and is equal to all-in compensation rate (i.e. base + adders) *minus* the value of the energy
- **Behind-the-Meter Facilities:** Any facility that does not meet the definition of standalone
  - Incentive payment value is fixed for the duration of the tariff term and is determined at the time a project is interconnected
  - Facilities may or may not be eligible for net metering, but net metering eligibility has no impact on calculating the total compensation rate and the SMART incentive payment

Energy Compensation and Incentive Compensation for Standalone Facilities

- The total compensation to all SMART facilities is intended to account for *energy* and for *incentive* compensation
- The method of calculating the incentive payment depends on whether a system is classified as Behind-the-Meter or Standalone
- The Value of Energy depends on the type of energy compensation the facility is receiving and will be either a bill credit or direct payment
  - Net Metered Generation Unit
    - The value of the bill credit determined by the system's net metering eligibility pursuant to MGL c. 164 § 138 and 220 CMR 18.00
  - Alternative On-bill Credit Generation Unit
    - The value of the bill credit set at basic service
  - Non-net Metered Generation Unit
    - The value of the direct compensation subject to the utility company's Qualifying Facility Tariff
- Energy compensation + incentive payment always equals the total compensation rate for which a system is qualified under SMART

Energy Compensation and Incentive Compensation for Behind-the-Meter Facilities

- The total compensation to all SMART facilities is intended to account for *energy* and for *incentive* compensation
- The method of calculating the incentive payment depends on whether a system is classified as Behind-the-Meter or Standalone
- The Value of Energy approximates the avoided costs of electricity from a kWh of on-site load offset by a solar facility and is equal to the sum of the following:
  - Current volumetric distribution rate
  - Current volumetric transmission rate
  - Current volumetric transition rate
  - Three-year average Basic Service Rate
- These values are based on the distribution company service territory and the rate class of the End-use Customer's meter (e.g. Massachusetts Electric customer on an R-1 residential rate)
- The value of the incentive payment the facility is eligible to receive is calculated by subtracting the Value of Energy from the total compensation rate to which it is entitled under the tariff
- This resulting incentive payment value is fixed for the duration of the tariff term of the facility and does not fluctuate as electricity prices change as it does for Standalone Facilities
- Because of this structure, Behind-the-Meter facilities will not necessarily always receive the total compensation rate for which a system is qualified under SMART, but may receive more or less depending on 1) the future retail price of electricity, and 2) the amount of electricity exported by the facility to the grid (i.e. facilities that export more electricity may receive less total compensation because their avoided electricity costs will be lower than if the electricity was consumed behind-the-meter)
- More information on how to calculate an estimated Value of Energy and SMART incentive payment value can be found in DOER's *Value of Energy Guideline and Calculator* for Behind-the-Meter facilities, which is available at:
  - masmartsolar.com (Solar Program Administrator's SMART Website)
  - Development of the SMART Program Webpage

Alternative On-Bill Credit

- Alternative On-bill Credit
  - Approved by DPU
  - Value of bill credit set at basic service rate of the generator
  - Only available to Standalone Solar Tariff Generation Units (i.e. not available to Behind-the-Meter Solar Tariff Generation Units)
  - No limit on the number of credits that can be transferred to customers
  - Credits can be transferred across ISO-NE load zones, but not across utility service territories
  - Credits must be allocated to customer bill within three billing periods
    - EDCs must start tracking delays and misallocations
  - Payment Credit/Transfer form can be updated twice a year until process is automated
  - EDCs expected to take steps toward automation of process

Poll Question #3

- **For projects under development but not submitted, have you been issued an ISA?**
  - Yes
  - No

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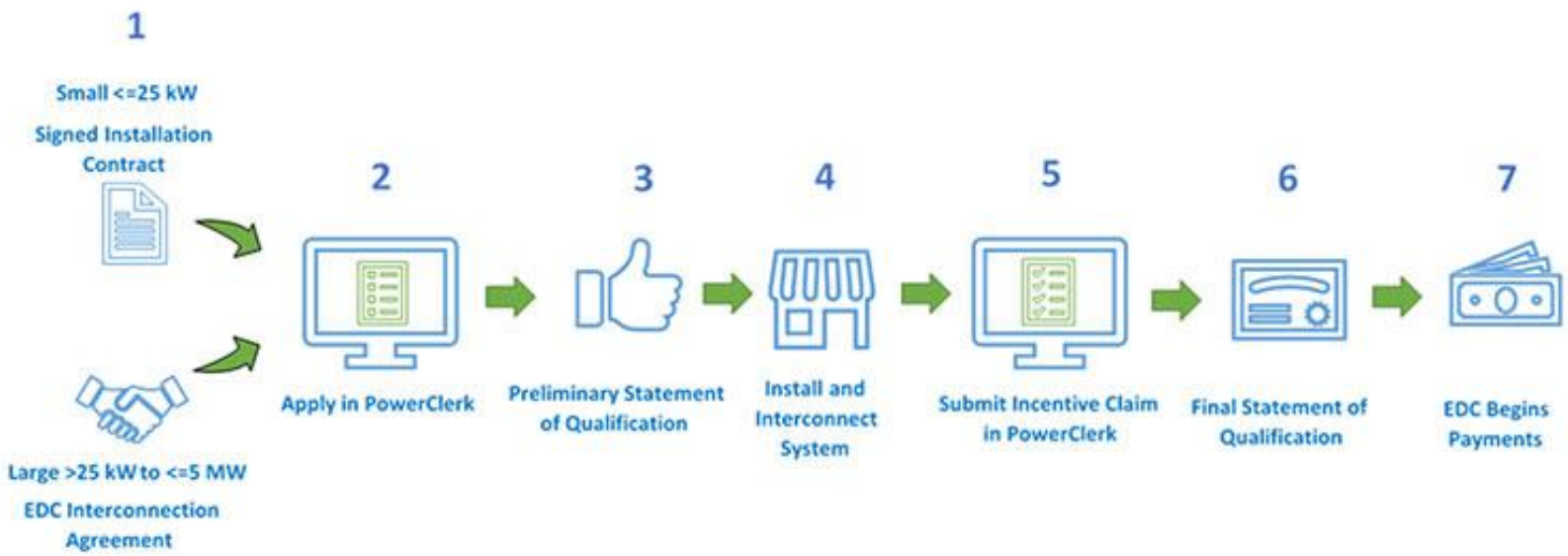
Application Process



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Preliminary Statement of Qualification Application Requirements and Process

Required documentation submitted with initial application

- 25 kW AC and less
  - Turnkey Contract with Installer
  - Customer Disclosure Form
  - Low-income utility rate if applicable
- Over 25 kW AC
  - Fully executed ISA
  - Site Control
  - Non-ministerial permits
  - Other documentation as necessary if applying for certain adders

Cure period is to correct administrative errors, not to provide extra time to procure required documentation

- If missing documentation provided during the cure period is dated after the original submission date, application will be rejected, and applicant will be required to reapply
  - For example, if an unexecuted ISA is submitted and flagged as an issue that needs to be cured, it is not permissible to subsequently submit an executed version with an execution date after the application submission date. If this were to occur, the application would be rejected.

Adder eligibility

- Some adders have required documentation at preliminary application
- Determination of ineligibility for an Adder does not disqualify eligibility for Base Rate

Claim Application Requirements and Process

1. By Reservation Period Deadline, Applicant must file Claim or file for one of the following Reservation Period Extensions
    a) Up to 6 month extension for a fee of $25/kW AC
    b) Up to 6 month extension for legal challenge to an issued permit
    c) Indefinite extension if Applicant demonstrates facility is mechanically complete by submitting signed Certificate of Completion
    d) Good Cause extension - May only seek after obtaining extension for a fee
2. Solar Tariff Generation Unit is issued Authorization to Interconnect by distribution company
3. Applicant submits Claim application via application portal
4. Applicant updates system information with final as-built system specs
    a) Equipment, size, ownership information all finalized at this point
5. Submit any required information for final Adder eligibliity
    a) e.g. Schedule Z / Payment Credit Transfer Forms, CSS Customer Disclosure Forms, etc.
6. CLEAResult reviews Claim for eligibility
7. CLEAResult recommends to DOER that final SQ be issued
8. DOER reviews and issues final SQ
9. CLEAResult notifies distribution company, and STGU is enrolled in that Company's tariff

Current Status Update

SMART Solar Block Status Update Last Update: 12/6/2018 9:15 AM						
Electric Distribution Company (EDC)	Size Group	Current Block	Block/Size Group (MW)[1]	Allocated Capacity (MW)[2]	Pending Capacity (MW)[3]	Accepting Applications for Block[4]:
Eversource MA East	Small	1 of 8	18.303	0.000	6.623	1
Eversource MA East	Large	1 of 8	73.211	2.000	38.929	1
Eversource MA West	Small	1 of 8	3.147	0.000	2.423	1
Eversource MA West	Large	Waitlist	TBD	7.700	111.448	Waitlist
National Grid (Massachusetts Electric)	Small	1 of 8	18.004	0.000	7.724	1
National Grid (Massachusetts Electric)	Large	7 of 8	72.018	43.573	402.902	7
National Grid (Nantucket)	Small	1 of 2	0.604	0.000	0.064	1
National Grid (Nantucket)	Large	1 of 2	2.417	0.000	1.000	1
Unitil	Small	1 of 4	0.789	0.000	0.254	1
Unitil	Large	Waitlist	TBD	0.000	17.884	Waitlist

https//masmartsolareversource.powerclerk.com

As of 12/6/2018: 643 MW submitted

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Next Steps

- DOER will announce the Adder Tranche sizes for the remaining tranches
- DOER will conduct a review of the program when 400 MW of preliminary Statements of Qualification have been issued
- Initial review of applications is ongoing, DOER expects it to take several weeks, and expects that the first Statements of Qualification will begin to be issued within a month of initial launch (depending on application volume)
- DOER may amend the SMART Regulation and/or Guidelines as part of its review

MLP Solar Program

- DOER has collaborated with representatives from the Municipal Light Districts to develop an incentive program
- Incentive program will mainly serve to incentivize residential installations
- Incentives will be in the form of rebates for facilities less than or equal to 25 kW DC
- Similar structure to the Commonwealth Solar Rebate Program
- Class I RECs from participating facilities will be transferred to the MLP
- DOER issued a Program Opportunity Notice and will announce the results shortly

Poll Question #4

- **Are you looking at building battery storage?**
  - Yes
  - no

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Resources

- DOER website https://www.mass.gov/service-details/development-of-the-solar-massachusetts-renewable- target-smart-program
  - ➢ Customer Disclosure Forms
    - Small System Direct Ownership
    - Small System Third Party Ownership
    - Community Shared Solar
  - ➢ Guidelines
    - Statement of Qualification Reservation Period
    - Definition of Agricultural Solar Tariff Generation Units Guideline
    - Land Use and Siting
    - Definition of Brownfield Guideline
    - Low Income Generation Units Guideline
    - Energy Storage
  - ➢ Behind the Meter Value of Energy Calculator
    https://www.mass.gov/doc/smart-btm-value-of-energy-calculator-0
- CLEAResult website http://masmartsolar.com/
  - ➢ FAQ
  - ➢ Application Document Requirements
- SMART Program Regulation (225 CMR 20.00) https://www.mass.gov/files/documents/2017/10/16/225cmr20.pdf
- SMART Model Tariff (Enter 17-140) https://eeaonline.eea.state.ma.us/DPU/Fileroom
- Email with Questions:
  DOER.SMART@mass.gov
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