Development Plan for Municipal Solar Development

Article 38 To see if the Town will vote to urge the Concord Municipal Light Plant to develop an action plan and schedule for the achievement of the Town's 2030 solar capacity targets focused on development of new power generation on Town-owned properties and present the plan and schedule to both the Select Board and FinCom before the end of 2022.

Climate Action Plan

Indicators of Success

How we generate electricity is a huge determinant in Concord's ability to meet its climate action and resilience goals. With a municipal utility, we have an opportunity to accelerate the adoption of non-fossil fuel electricity generation and these indicators will help keep us on track. We can use the indicators below to track our progress.

Indicator	Baseline Data	Baseline Year	2030 Target
GHG Emissions from electricity generation[16]	54,234 $MTCO_2e$	2016	0
Percent carbon-free electricity[17]	54%	2018	100%
Total MW capacity of residential renewable generation installations in Concord[18]	3.5 MW	2020	5.44 MW
Number of homes with rooftop solar[19]	358	2020	558
Number of homes with battery storage[20]	9	2020	109
Total MW capacity of solar generation on town property[21]	7.57 MW	2020	20 MW
Total MWh capacity of battery storage on town property[22]	0	2020	60MWh

Where Are We Now?

- In 2010, CMLP targeted 25MW of solar by 2030
  - 2010 48kW array, Willard School
- 2011 Solar Siting Report identified 22MW of potential
  - 2014 1.7MW former landfill
  - 2017 5.6MW former WR Grace property
- In 2017, CMLP adopted an 8 year strategy
  - Further municipal solar was written out
  - Local energy storage initiative scheduled for 2022
- The 2021 Climate Action Plan targets 20MW by 2030

Is Local Solar Important to the Town?

- CMLP can green the grid via purchases
  - Offloads infrastructure to others
- But, are we doing our share on GHG?
  - MA Climate bill 3% annual renewables increase
  - MA ‘Clean Peak Standard’
- Municipal Light Plants are exempted?

Challenges Presented by Solar

- Are the financials acceptable?
  - *Need to develop financial model*
- Is solar peak production an issue?
  - *Need to identify and address grid vulnerabilities 'solar saturation', other issues?*

Benefits from Local Solar

- Equity – in our backyard
- Local renewable energy to serve demand peak
  - Benefits are enhanced by battery storage
  - Transmission and capacity savings
- Long term, known costs. No surprises.
  - Predictable effect on rates

Why Solar Now?

- The urgency of now: Limiting temp rise to 1.5°
- The Commonwealth needs our participation
  - Renewables require real infrastructure
- Financial opportunities
  - Top 1% (peak) demand hours = 8% of electricity costs
  - Top 10% = 40% of electricity costs
  - Addressing peak is key to avoiding infrastructure costs

What Will This Mean?

- In Town solar = 6% of power portfolio (7.5MWs)
  - 20MWs goal adds another 8% (12.5MWs)
- CMS potential = 1.1 MWs (2025)
  - Plus, Beede, CCHS, new Public Safety Bldg
  - Plus, another utility scale site
- Get started now

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