

Compact Renewable Energy Survey

PRELIMINARY RESULTS

APRIL 4, 2017

NIKHIL NADKARNI, CITY OF CAMBRIDGE COMMUNITY DEVELOPMENT DEPARTMENT



Responses

16 responding organizations, representing over:

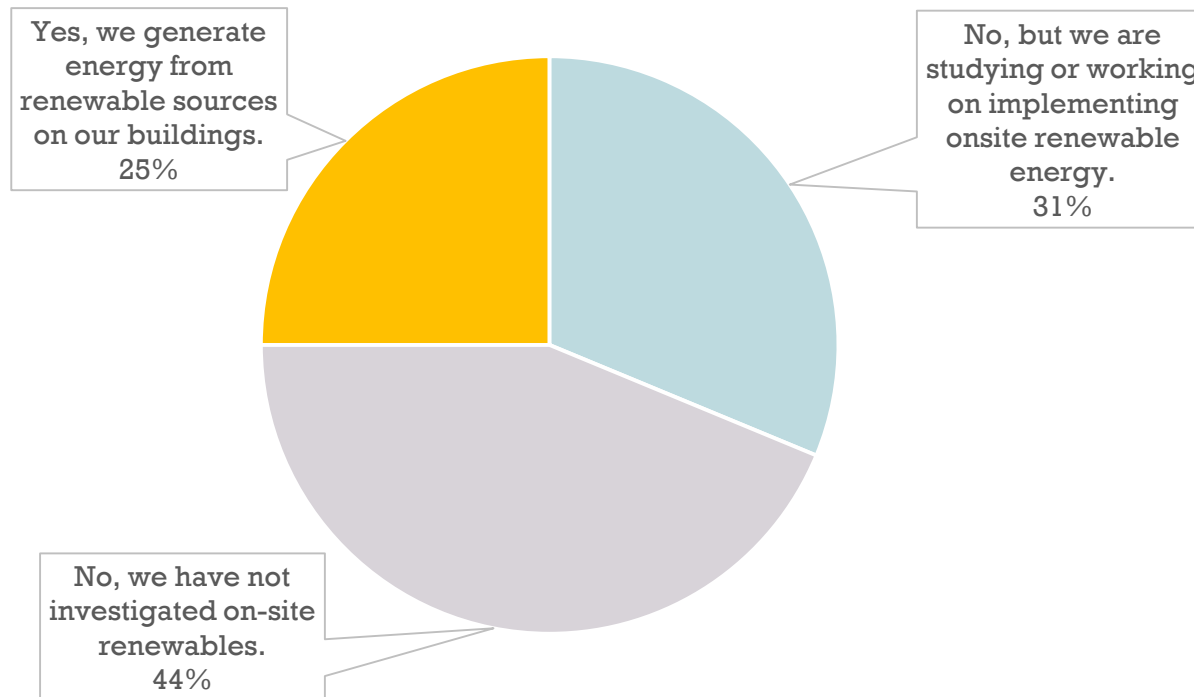
420 buildings

43 million square feet

770 million kWh of electricity use/year

Renewable Energy Use On Site

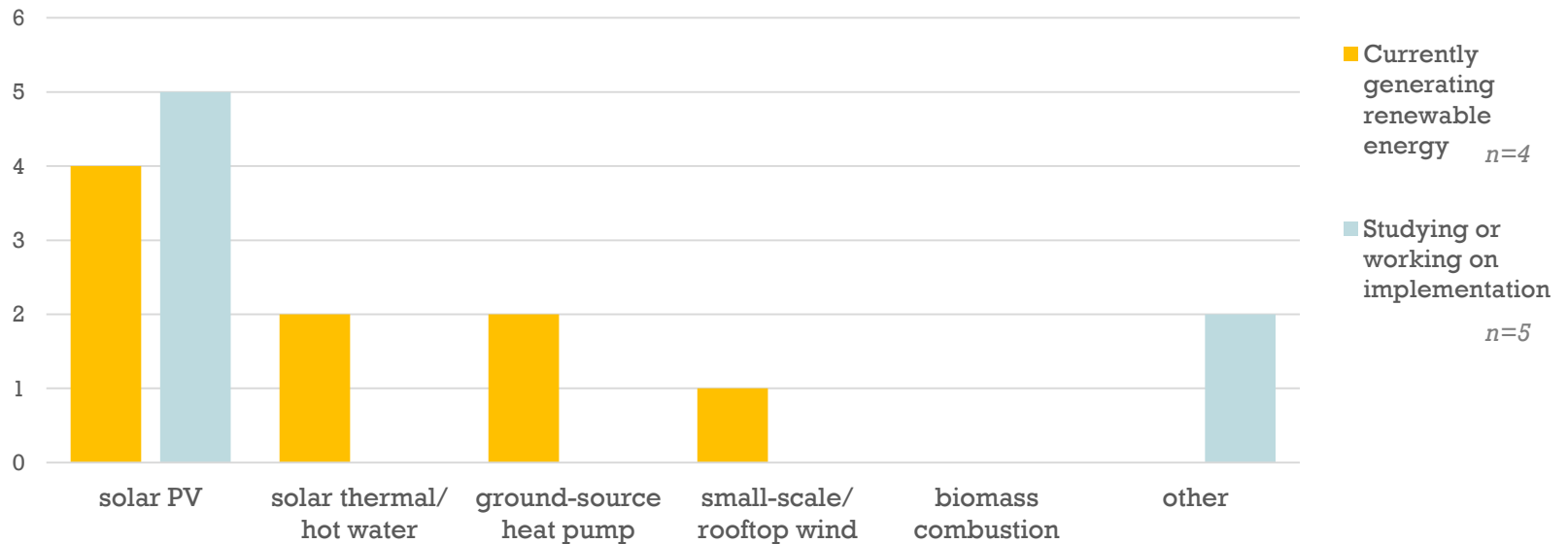
Does your organization currently generate any renewable energy on its Cambridge buildings?



n=16

Renewable Energy Use On Site

Number of organizations currently using or planning different types of renewables



Both of the "other" responses indicated cogeneration

Renewable Energy Use On Site

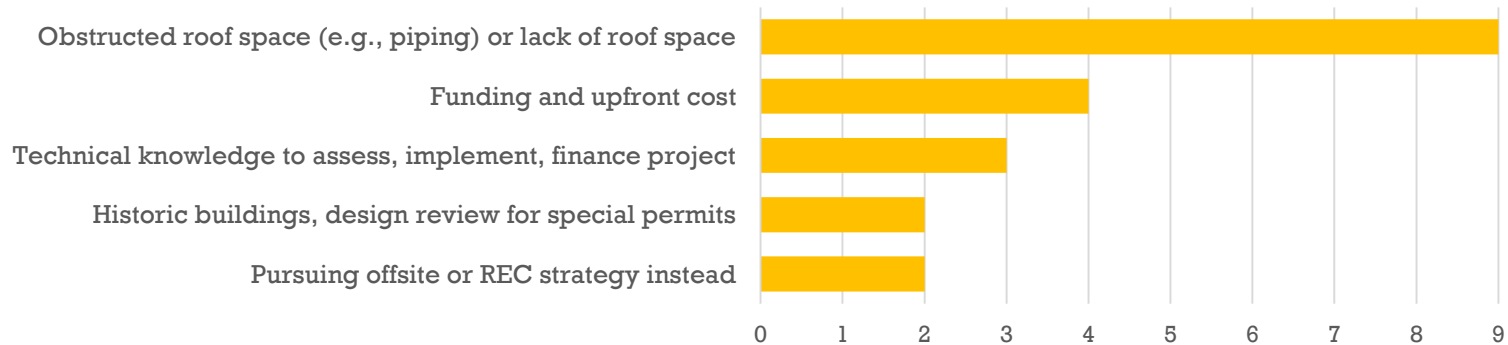
How much energy does this renewable source provide? (Or how much is it expected to provide?)

- Several responses of <1% to 5%
- Other responses indicating 30kW – 150 kW systems
- Other respondents in planning stages are unsure of system size

Onsite Renewables: Challenges

What obstacles have you encountered in pursuing onsite renewables?

Top responses



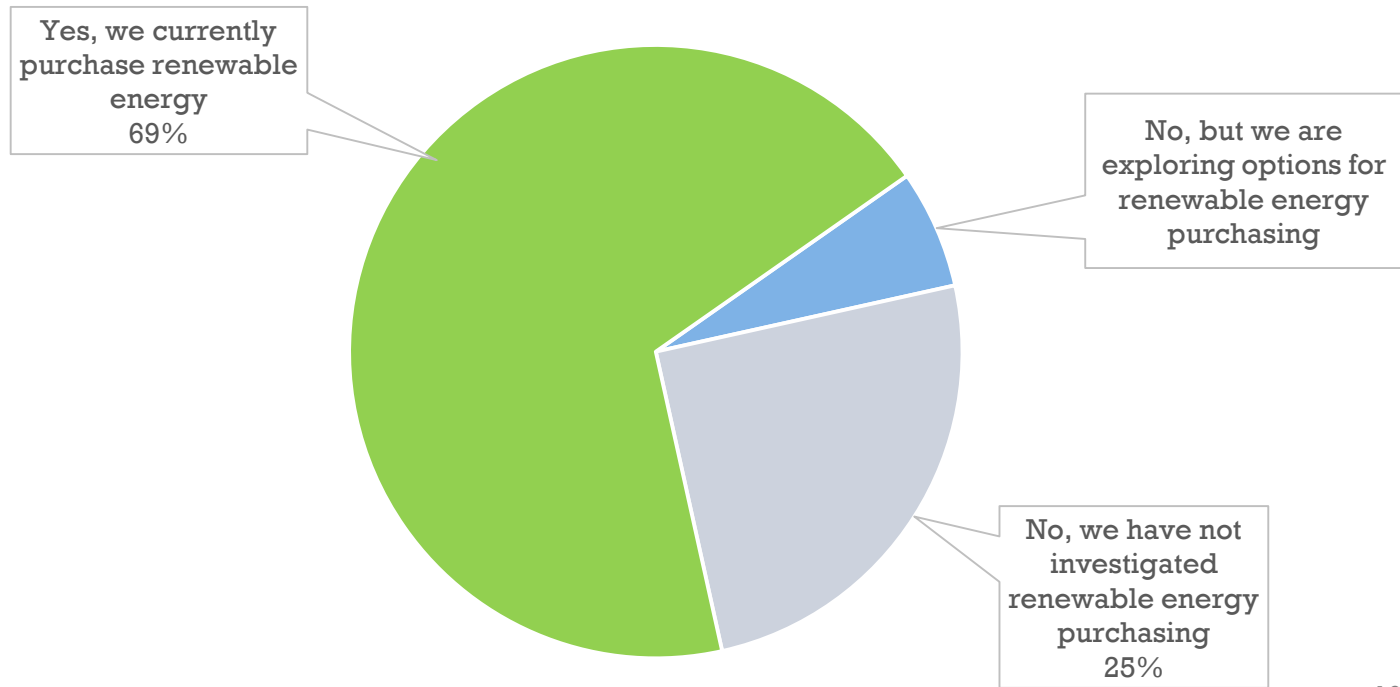
Additional responses

- Other uses of roof space
- Perceptions about cost-competitiveness
- Perceptions about return for nonprofits
- Structural load
- PPA term length
- PPA contract negotiation
- Organizational complexity
- Uncertainty of tax incentives
- Potential future building renovations
- Lack of ground surface area on site
- Changes in utility demand from tenants

n=15

Renewable Energy Purchasing

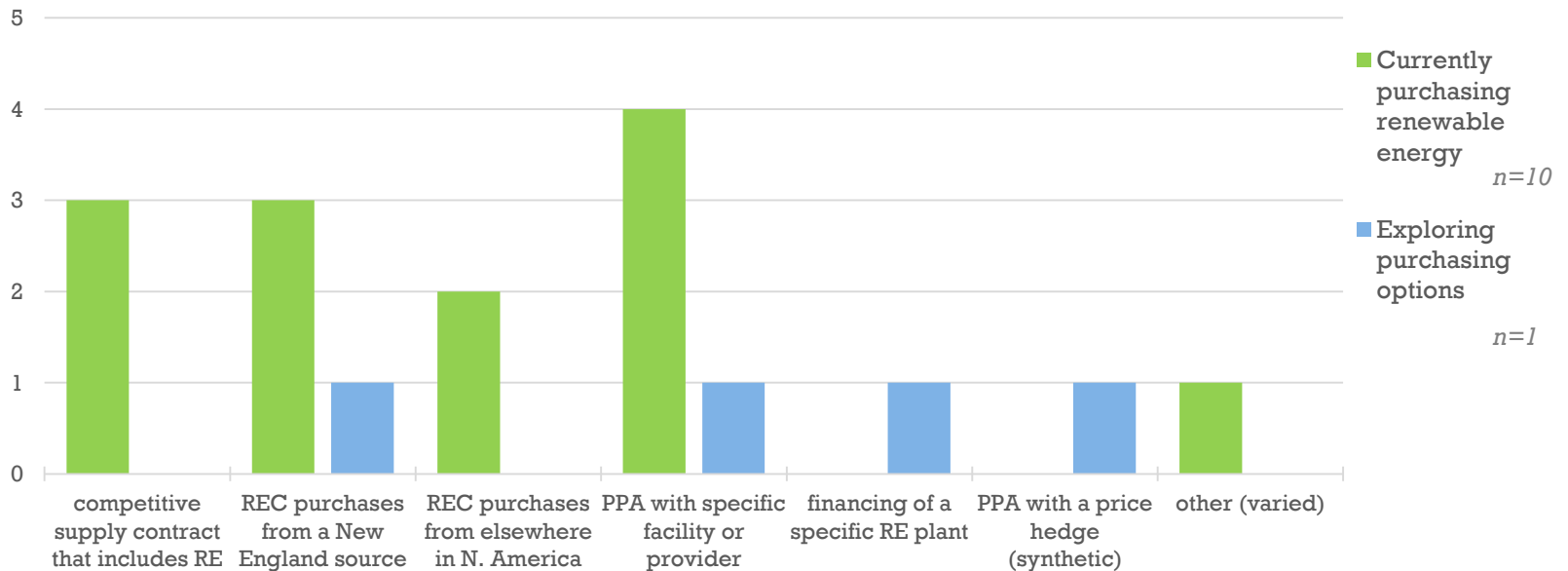
Does your organization purchase renewable energy (i.e., green power purchasing)?



n=16

Renewable Energy Purchasing

Prevalence of different types of purchasing mechanisms



RE = renewable energy

REC = renewable energy credit

PPA = power purchase agreement

Renewable Energy Purchasing

How much energy is supplied by this purchase?

n=9

- Responses include 10-12%, 40%, and 100%

How did your organization select a purchase option?

n=7

- Bid process (4 organizations)
- Third party energy consultant (3 organizations)
- Internal assessment of more than ten PPA options
- Focused on a project that met Massachusetts RPS
- Focused on priorities of capacity additionality, cost competitiveness, global impact, and risk profile
- Tenant request spurred process

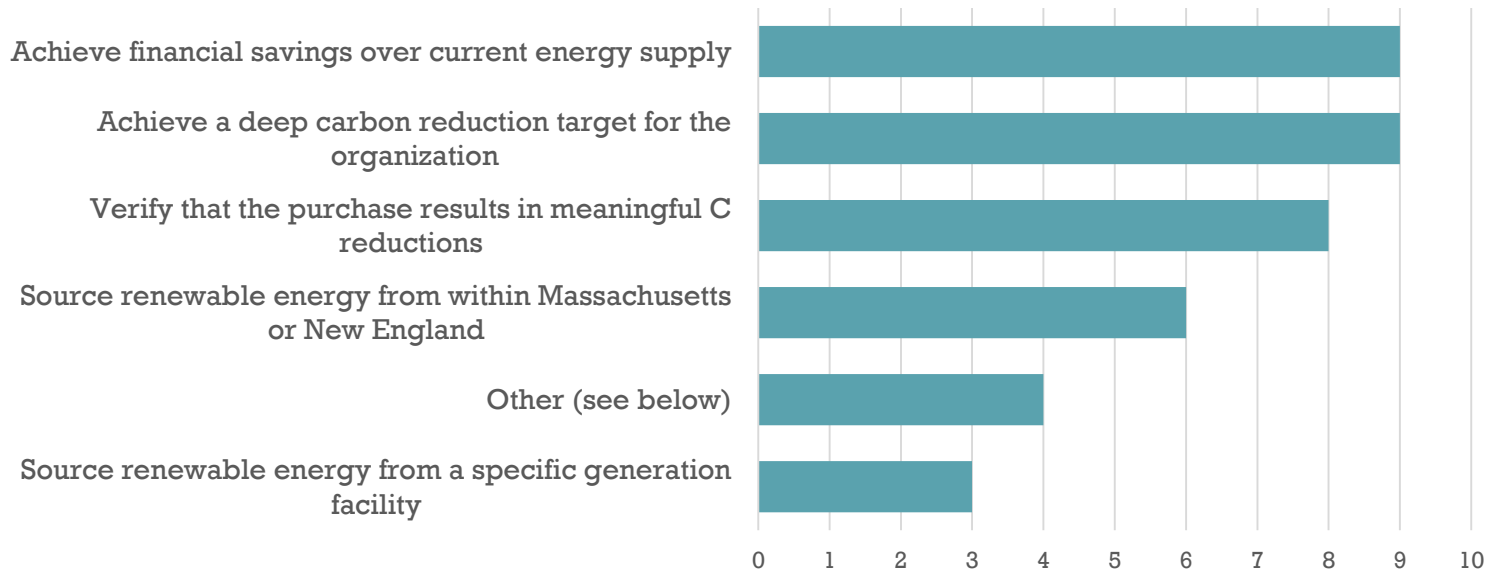
Global Goals for Renewables

Does your organization have specific policies or targets for purchasing or installing renewable energy? This could include global policies beyond your Cambridge buildings.

- 8 out of 13 respondents say they have some target
 - 10% renewable purchase goal
 - Committed to 100% renewable
 - GHG reduction goals for the organization, with onsite and offsite renewables as strategies
 - 'Offsite RECs not considered as part of our GHG inventory'
 - Solar installation plans
 - Policies to evaluate renewable energy options if supply is competitive
- 5 respondents: no formal goals at this time

Goals for Increased Renewable Energy Purchasing

What goals would be most important to your organization for purchasing more renewable energy?



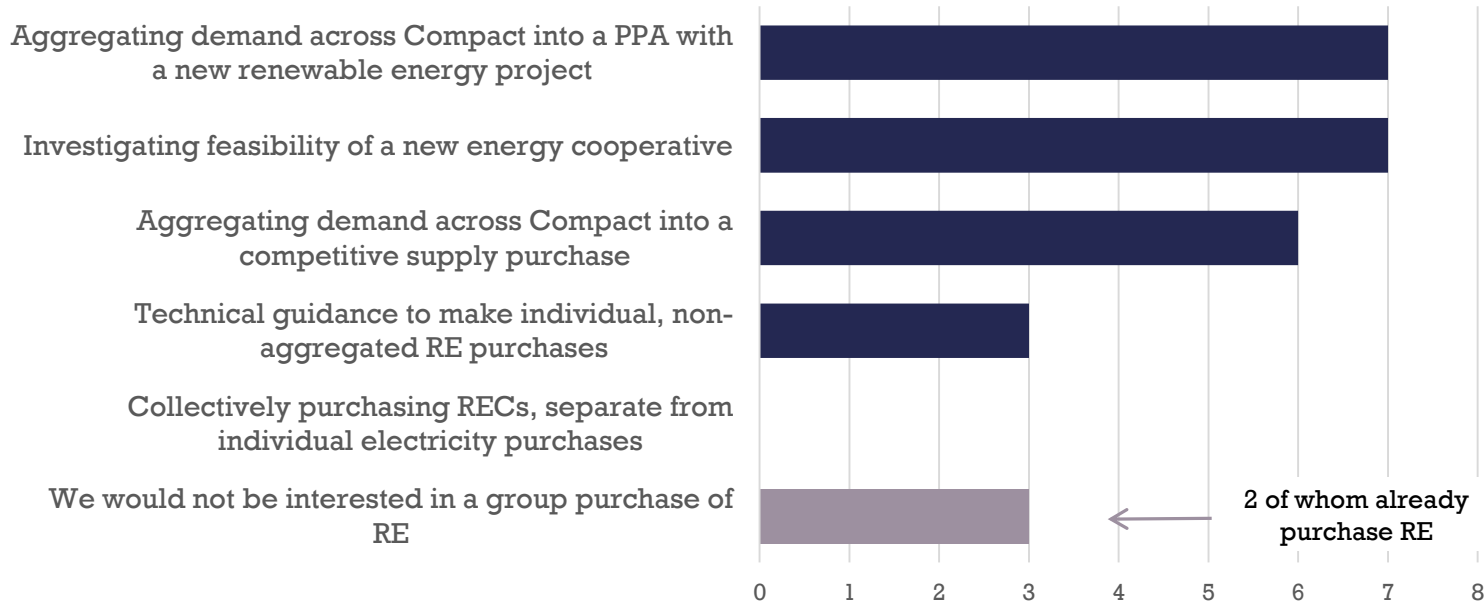
“Other” includes:

- creating and scaling local energy supply
- leadership in advancing innovation in use of renewables for GHG mitigation goals
- financial savings over current energy supply with an equivalent commitment term (+/-2 years)

n=15

Group Purchasing of Renewable Energy

If the Compact was to facilitate a group purchase of renewable energy, which strategies would your organization be interested in exploring?

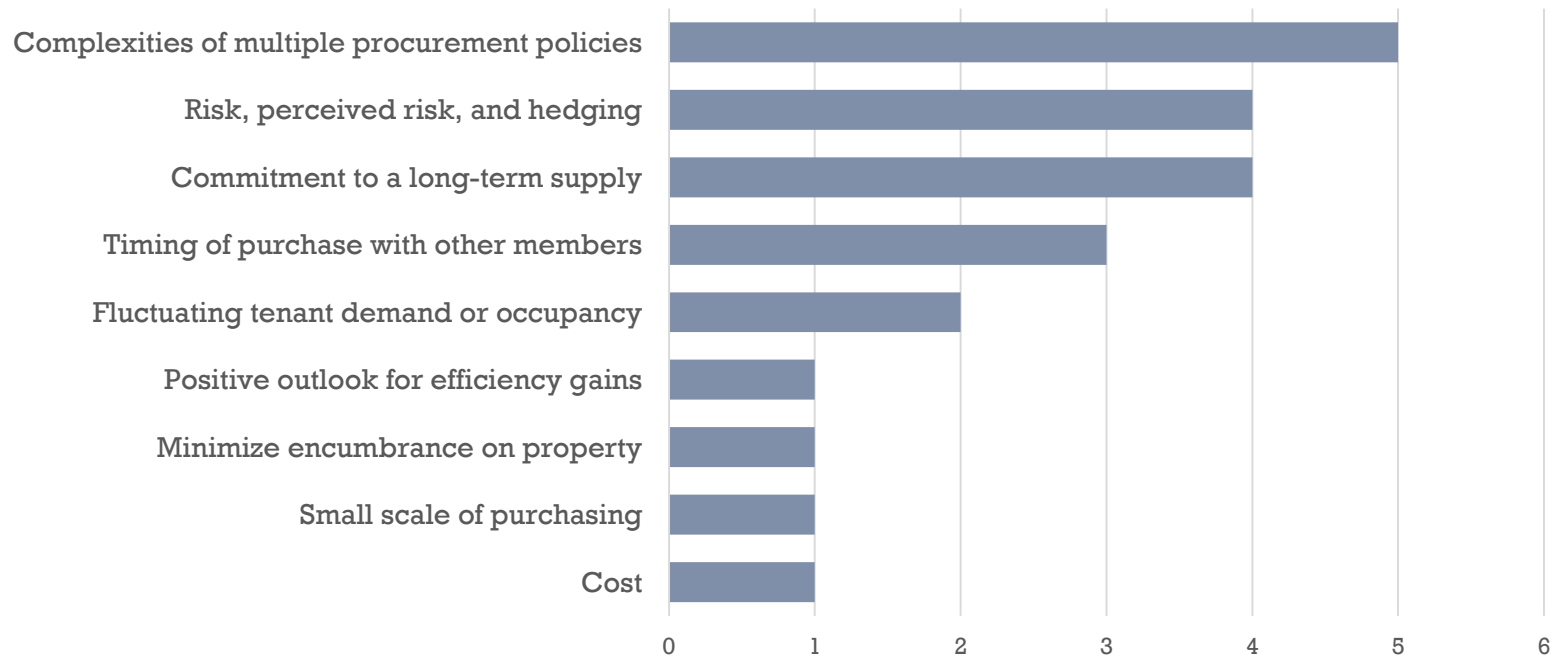


Seven out of the eleven organizations that currently purchase RE are still interested in exploring a group purchase

n=15

Group Purchasing of Renewable Energy

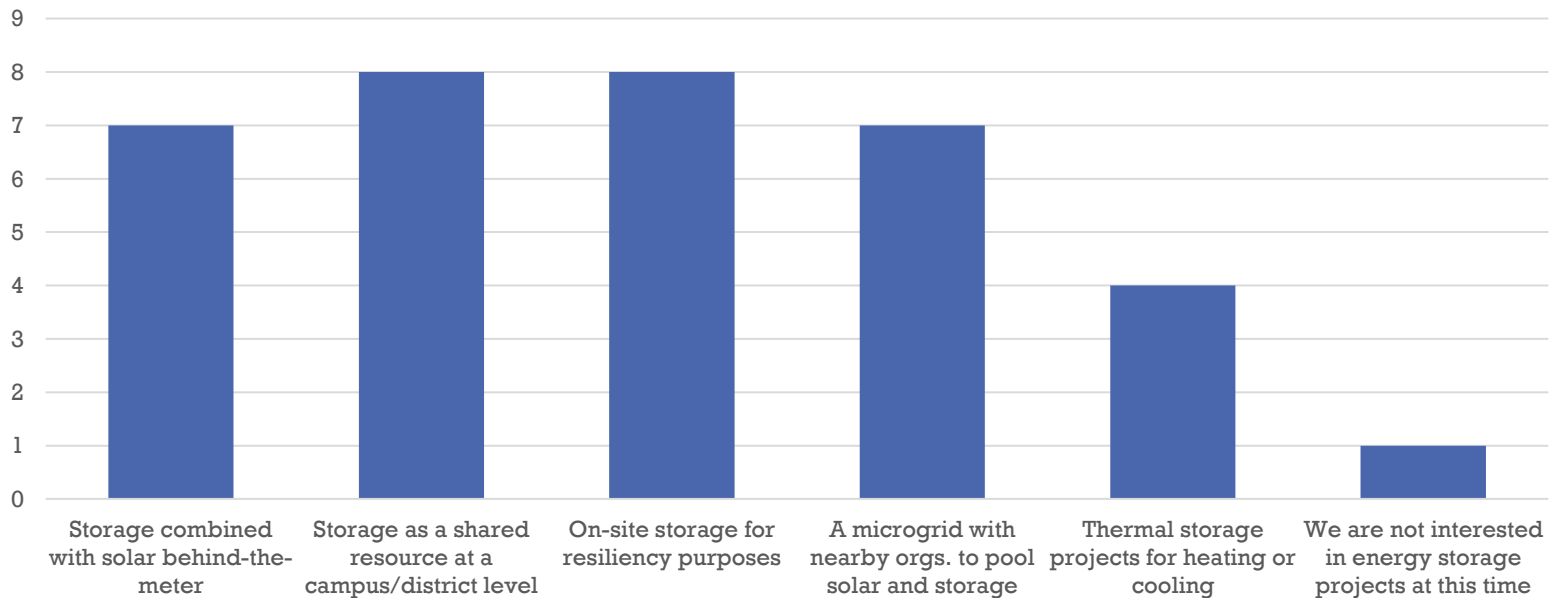
What are the challenges you foresee for your organization to participate in a group renewable energy program?



n=14

Energy Storage

In light of Mass DOER's energy storage initiative, what types of energy storage projects would you be interested in learning more about?



All four organizations that currently generate on-site renewable energy are also interested in learning about storage.

n=14

Energy Storage Program Opportunity

In early March, the Massachusetts Dept. of Energy Resources announced the *Advancing Commonwealth Energy Storage (ACES)* grant program

- Structured as an RFP for energy storage demonstration projects
- Up to \$1.25 million per project (total of \$10m available)
- Applicant must share 50% or more of cost
- Can be combined with solar or other renewables (only storage component will be funded)
- Project should demonstrate business case of energy storage
- Build and interconnect within 18 months of award
- Proposals due June 9

www.masscec.com/advancing-commonwealth-energy-storage-rfp

Members' Current Renewable Purchasing and Generation

		Generating onsite		
		Yes, generating onsite RE	No, but studying or working on it	No, have not investigated onsite RE
Purchasing	Yes, currently purchasing RE	Harvard, MIT	Twining, Biogen, Alexandria	Draper, Eversource, Forest City, Biomed
	No, but exploring	City		
	No, not purchasing RE at this time	HRI	Cambridge Redev. Authority	CDM Smith, Novartis

Two other respondents have requested that their answers be kept non-attributable.

Other Areas of Interest

What areas related to renewable energy and storage would your organization like to learn more about that we did not cover?

- Shared thermal loads between commercial and residential
- Demonstrations of successful energy storage (battery) projects
- New incentives through state DOER
- Geothermal
- Shared savings agreements or other finance strategies in lieu of owning energy storage systems, that Compact members may be pursuing
- Integration of low-carbon strategies with local, regional, and state levels

Questions?

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