

## ***Desired Future State for Energy Supply and Offsets 5/5/14***

### ***All available renewable resources are exploited to the fullest extent***

- Fuel switchover where possible, to lower carbon fuels
- Solar resources, identify top resources of all kinds (not just roofs – bridges, roadways, etc) and target them (alewife T). Exploit all available resources.
- Resource mapping also to identify partners for larger installations (partner with MBTA and MWRA?). Cambridge owns land in Lincoln (other?) - do we count only within city limits and/or OWNED by city? (carbon accounting benefits Cambridge even if generation is outside city limits)
- Solar thermal hot water should be ubiquitous
- Anaerobic digesters in city – to take care of both compost AND sewage and reduce nat gas use – reduces load on Deer Island so multiple gains
- Offshore wind or hydro/tidal technology projects explored

### ***Adequate storage facilities are developed to support maximum build out of renewables***

- Energy storage strategies are identified at a planning scale - sim to above for finding generation opportunities - (tax breaks for Co's considering big strategies – for incentives and Reg group)
- Identify partners (MWRA) and negotiate agreements to locate storage on their property.
- Identify opportunities specifically for thermal storage (needs sizable area)
- Consider a focus on developing electric car infrastructure - creates an entirely new storage potential, improves NSTAR's load factor

### ***Cambridge is a test bed for modern micro-grids and modernization***

- Cambridge will be a test bed for modern micro-grids (Worcester is a pilot)
- Smart metering & sub-metering expanded (change utility relationship to consumer data). Time use metering/two way metering pilot (pricing favors solar)
- Push for DPU Grid modernization
- Explore MOU w utilities to address specific goals

### ***Localized offset programs provide options for all residents to participate in solar programs.***

- Community Solar – Next Step Living. Give residents the ability to pay into /pay premium for green power (transparency)
- SREC II
- “Cambridge carbon fund” create portfolio of investment opp for offsets, but local (see Kennedy School study)

### ***Accelerate adoption of new technologies***

- Cambridge is a test bed for new technologies – solar roadways, energy storage, floating hydro, new fuels, BIPV, other - coordinate w planned/scheduled things like road repair, etc (21 teams advance a MITs clean energy competition - <http://mitsloan.mit.edu/newsroom/2014-clean-energy-prize.php>)

### **Discussion points that pertain to other groups:**

- finance/reg: Currently no "carbon fee"? From city: To all gas/elect transactions to fund initiatives (finance incentive group)
- finance: SREC II (1600 Megawatts)
- regulatory/planning: All dev over Xsf needs to have an energy plan tied to local generation (regulatory group)
- behavior: Off plug load campaign and use battery powered at peak ?
- regulatory/planning: sequestration
- behavior: Purchasing interventions – instead of buying AC get heat pump (intervene at point of transaction – equipment and real estate)
- Regulatory: Solar "ready" in new building design and menu of things to consider including mechanical locations to make them "district ready" - such as mech on perimeter and hydronically heated and cooled.
- Currently there is no district "overlay" using energy supply limitations to drive EE in new buildings, setting limits and recognizing " carrying capacity"

### **Over-arching theme**

MOU w utilities to address both storage, capacity and generation

#### **tools resources:**

Need to utilize a platform for measurement, tracking, mid-course correction

#### **Questions:**

question of accounting - what counts? Where? For what? For Whom?

net metering and CHP barriers - issues at state level