

The logo for CADMUS, featuring the word "CADMUS" in white, uppercase, sans-serif font centered on a solid blue rectangular background.

CADMUS

A large yellow arrow pointing to the right, with a white outline, serving as a graphic element for the title.

Emerging and Evolving Renewables Opportunities for Municipalities

Massachusetts Municipal Association
2014 Annual Conference

January 24, 2014



About Cadmus

- Waltham-based energy & environmental consulting firm
- Helped 50+ state and local entities make informed business decisions about renewable energy projects and programs
- Serve as prime solar policy consultant to the MA Department of Energy Resources
- Grant assurances of net metering eligibility as the Administrator of the “Net Metering Queue”

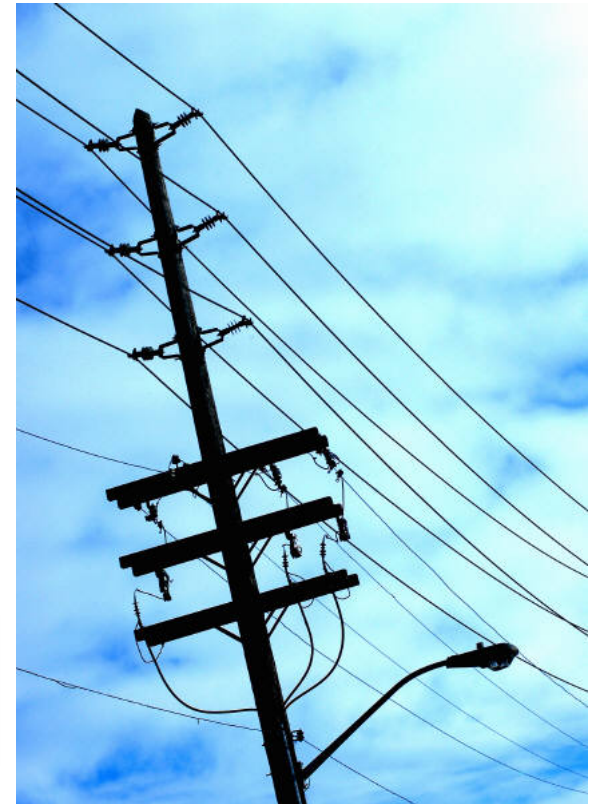
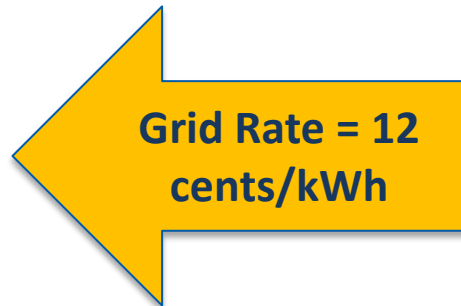


Solar for Cities and Towns

- Widespread adoption of **solar Energy Management Services** contracts for services including:
 - Lease of public space
 - PV system design, installation, O&M, and removal
 - PV electricity
 - Performance guarantee

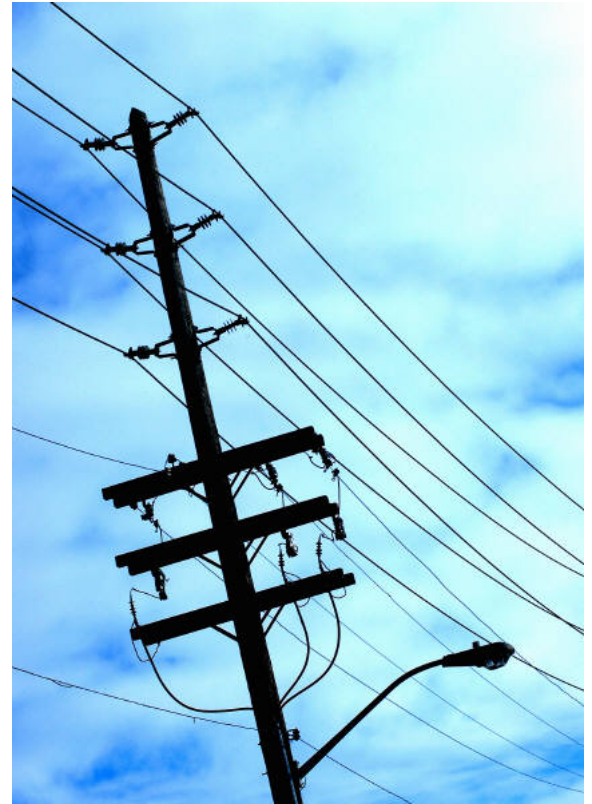
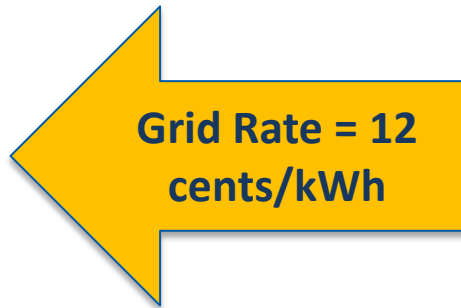
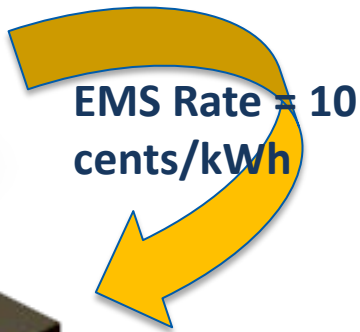


How are Savings Created?





How are Savings Created?





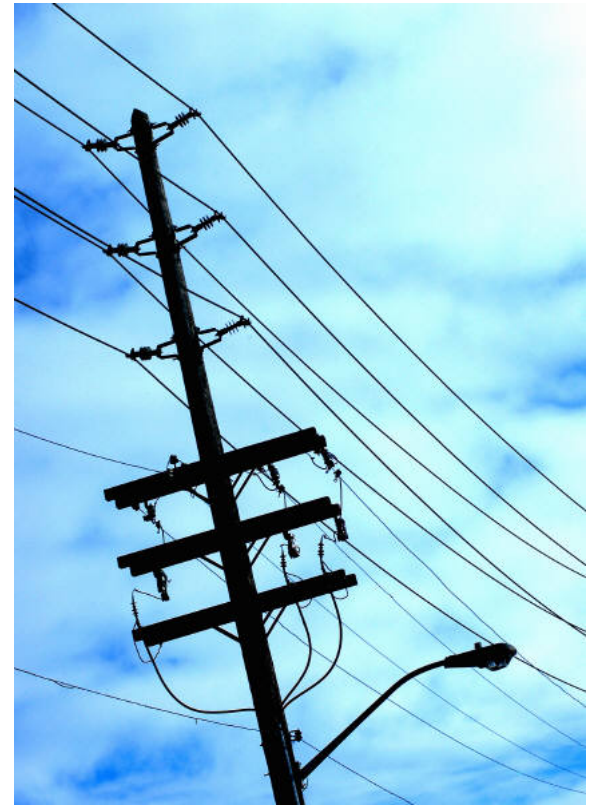
How are Savings Created?



EMS Rate = 10
cents/kWh



Grid Rate = 12
cents/kWh





Solar for Cities and Towns

- Appeal of **solar Energy Management Services**:
 - No upfront cost
 - Low-cost solar electricity w/o risks of ownership
 - Hedge against electricity price volatility
 - Benefit from available tax incentives
- All under **one solicitation***

*M.G.L. c. 25A §11C or §11I



General Best Practices: Solar Energy Management Services

- Nominate project champion
- Identify local contract approval process
- Start a local dialogue
- **Triple-check** your understanding of local electricity costs
- Conduct interviews
- Investigate **developer's long-term plans**
- Be aware of important time constraints



Contracting Best Practices: Solar Energy Management Services

- **Change-in-law provisions**
- Net metering regulatory risk
- Site restoration
- Default and termination
- Assignment provisions
- Timelines





Important Changes: State Solar Policy

- **Massachusetts solar incentives are changing**
- Original Solar Carve-Out Program (400 MW)
 - Fully subscribed
 - New regulations proposed by DOER
- New Solar Carve-Out Program (1600 MW)
 - Incentive levels vary by project type
 - Updated regulations anticipated for Q1 2014
- Some projects **on hold** as program is finalized



Implications for Municipal Solar

- Different project types incentivized at different levels
- SREC Factor = incentive multiplier
- **Value proposition is changing**



Residential, Parking Canopy, Emergency Power Generation, Community Shared Solar, or any Unit ≤ 25 kW



Roof- and Ground-Mounted PV Systems > 25 kW with 67% or more of the Electric Output on an Annual Basis Used by an On-Site Load



Landfill or Brownfield, or a Unit ≤ 500 kW with less than 67% of the Electrical Output on an Annual Basis Used by an On-Site Load



Managed Growth Sector (Unit that does not meet the criteria of Market Sector A, B, or C)



Implications for Municipal Solar

- Consider **quals-based procurement**
 - Low costs to respond
 - **Interviews**
 - Price/scope come later



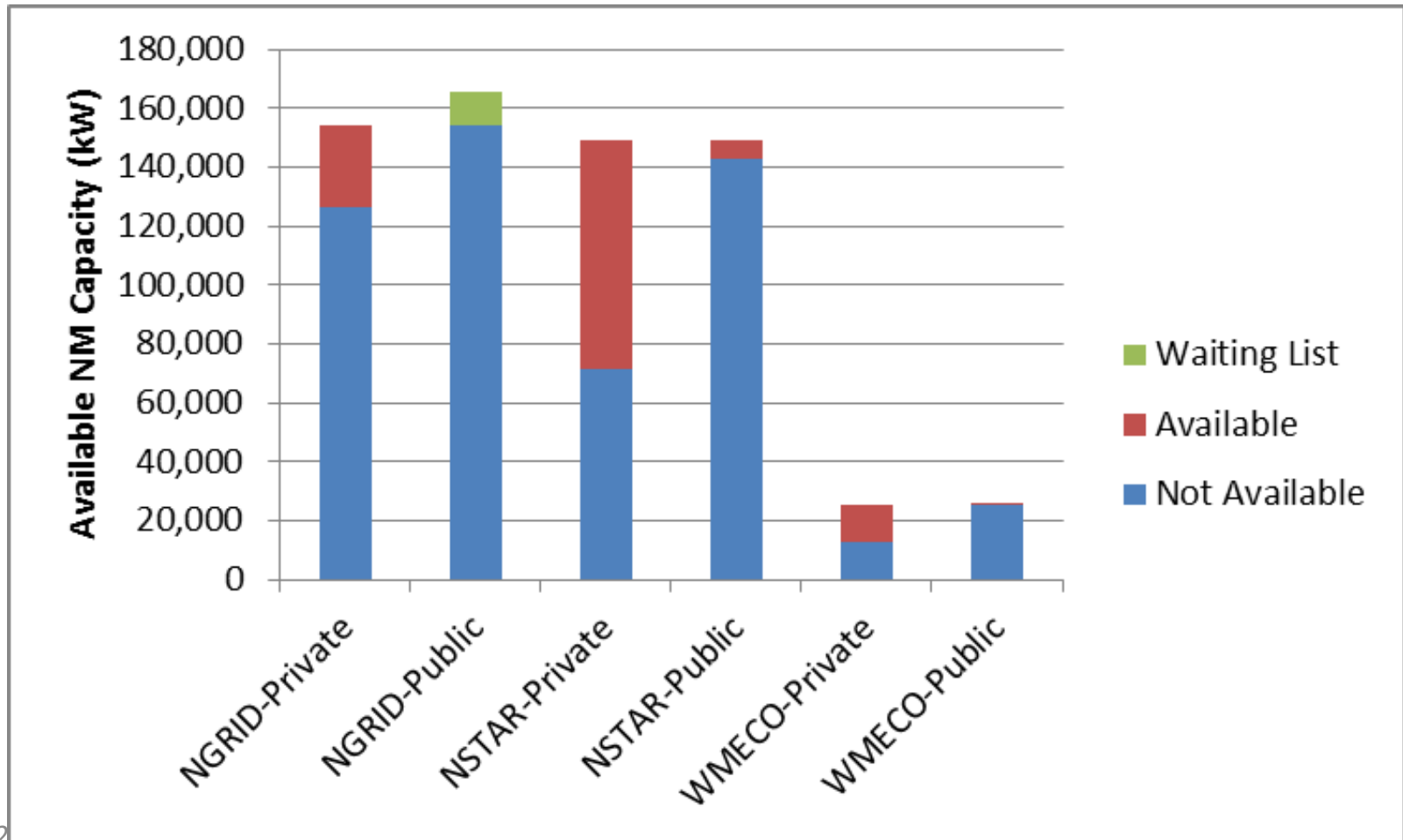


Important Changes: Net Metering Availability

- An incentive program to encourage customers to install distributed generation
 - Customers compensated for electricity they generate and do not use
 - NM credits are worth near retail rate
- **Availability of net metering services is declining**
- Tracking data available at www.MassACA.org



Public and Private Net Metering Capacity by Utility Territory





Implications for Municipal Solar

- Evolving opportunities and approaches to traditional model
- Consider:
 - Direct offset of load
 - Private NM cap
 - NM credit agreements
 - Lease model



1.6 MW PV System at Pittsfield WWTP



Other Emerging Opportunities for Solar

- Getting the broader community involved
 - Shared solar
 - Solarize programs
- Addressing local barriers to solar
 - Zoning overlay districts
 - Permitting fees
 - MLPs: NM and interconnection policies



Wind

- Wide variety of issues remain critical to gaining community support for wind
 - Visual impacts, flicker, acoustics
- Development costs make 1-2 turbine projects difficult
 - Siting, permitting, engineering, outreach, legal, etc.
- **Net metering credit purchase agreements** as a promising alternative to more traditional models
 - First Wind's Berkshire Wind project



Anaerobic Digestion

- **MassDEP proposed commercial organics waste ban to take effect by July 1, 2014**
 - 310 CMR 19.00
- Would apply to any entity that disposes of > 1 ton/week of organic material
 - Excludes residences
 - May impact **large secondary schools**
- Will need to separate and divert organic waste
- Resources: MassDEP, **Recycling Works Program**



Contact

Erin Sweet

Renewable Energy Group

Cadmus

617-673-7101

Erin.sweet@cadmusgroup.com