AN UPDATE ON ENERGY INCENTIVES

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Agenda

1 Relevant incentives for district energy technologies and projects

2 Application tips, lessons learned and resources
RELEVANT INCENTIVES
for district energy technology
and projects
The Challenge

Campuses and district energy systems need to meet the overlapping challenges of accelerating campus/system growth, while maintaining reliability of current systems and incorporating more resiliency to address contingencies, all while simultaneously reducing their energy costs and GHG footprint.
The Challenge

Even if a distributed energy or district energy project looks promising...

- Achieves emissions compliance
- Hedges against financial risks of aging infrastructure
- Increases electric / thermal reliability and resiliency
- Produces positive life cycle cost
- Reduced GHG emissions
- Supports job creation / market development

...how do you justify large capital investment for utilities in a highly-competitive budget environment?
Federal Incentives

Federal funding sources:

- DOE
- EPA
- USDA
- DHS
- DOD
- National Laboratories

All have programs to support a wide variety of energy technologies and projects.
Federal Incentives

Grants, cost-share agreements and cooperative agreements offer:

- up to **100%** for analysis, modeling and testing
- up to **80%** for research and design
- up to **50%** for demonstration and commercial deployment

level of government oversight | loan guarantees | technical assistance
Federal Incentives: DOE Outlook

FY17 budget (enacted/CR) for clean energy programs

$2+ billion

FY18/19 budget requests for clean energy programs

$700+ million
Federal Incentives: DOE Programs

Applied R&D programs supporting energy efficiency and renewable energy technologies:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomass</td>
<td>eere.energy.gov/biomass/</td>
</tr>
<tr>
<td>Buildings</td>
<td>eere.energy.gov/buildings/</td>
</tr>
<tr>
<td>Federal Energy Management</td>
<td>eere.energy.gov/femp/</td>
</tr>
<tr>
<td>Geothermal</td>
<td>eere.energy.gov/geothermal/</td>
</tr>
<tr>
<td>Fuel Cells</td>
<td>eere.energy.gov/hydrogenandfuelcells/</td>
</tr>
<tr>
<td>Advanced Manufacturing</td>
<td>eere.energy.gov/manufacturing/</td>
</tr>
<tr>
<td>Solar</td>
<td>eere.energy.gov/solar/</td>
</tr>
<tr>
<td>Vehicles</td>
<td>eere.energy.gov/vehiclesandfuels/</td>
</tr>
<tr>
<td>Weatherization</td>
<td>eere.energy.gov/wip/</td>
</tr>
<tr>
<td>Wind</td>
<td>eere.energy.gov/wind/</td>
</tr>
<tr>
<td>Water Power</td>
<td>eere.energy.gov/water/</td>
</tr>
</tbody>
</table>
Federal Incentives: Opportunities

**BENEFIT (annual)**
- 2016: $20M in grants for building energy efficiency projects
- 2017: $20M, applications due March 8, 2017
- 2018: No current solicitation

**ARPA-E Open FOA (three-year cycle)**
- 2015: FOA offered $125M in grants
- 2018: FOA offered $100M in grants (Dec 2017 announcement / Concept Papers due 2/16)
- 2019: FY19 Budget Request does not include funding

**Grid Modernization Initiative (GMI)**
- 2016: $220M in grants for integration of renewables and energy storage, cybersecurity, controls
- No current grant offering

**FEMP AFFECT**
- 2014-2016: $11M in grants awarded (CHP, renewable energy, energy efficiency retrofits)
- 2017: $3M in grants offered
- 2018/2019 – AFFECT funding not included in budget request
Federal Incentives: Opportunities

**SUNSHOT Technology to Market**
2015: FOA offering $45M in grants
2016: $21M in grants – accelerate deployment / soft costs

**Loan Guarantee Program**
Updated Oct 2015: Additional $1B; clarified eligibility of CHP; rolling application periods; challenging for smaller projects (<$50M) due to application fees and credit subsidies.
Funding discontinued with 2019 Budget Request

**Tax Credits**
10% ITC for CHP-Extended to 2021 under new tax legislation / 30% ITC for renewables-Phasing Out by 2022, with exception of PV
Federal Incentives: Opportunities

AMO CHP for Grid Support
FOA Issued / Amendment 1 Issued February 2018
Focus - Grid connected CHP at “manufacturing” facilities

Concept papers due March 23, 2018
Full applications due May 10, 2018
Available funding - $10M ($1M to $1.5M max per project)

Anticipated award timeframe – August/September 2018
## Federal Incentives: Opportunities

<table>
<thead>
<tr>
<th>Other DOE Sources</th>
<th>ARPA-E, National Labs, Clean Energy RACs, Industrial Assessment Centers, Federal Utility Partnership Working Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>USDA</td>
<td>BRDI / AFRI</td>
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<tr>
<td>FAA</td>
<td>GSE / Terminal Ops Efficiency</td>
</tr>
<tr>
<td>DOD</td>
<td>ESTCP, DARPA, Onsite and Utility Scale Renewables, Biofuels, EUL/UESC/ESPC</td>
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<tr>
<td>EPA</td>
<td>Recognition / Tech Support, Brownfields, EPA-ChP Partnership</td>
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<tr>
<td>DHS / FEMA</td>
<td>Cybersecurity, Hazard/Flood Mitigation</td>
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<td>Commerce</td>
<td>Economic Development</td>
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## State and Local Incentives

### State Energy Programs

<table>
<thead>
<tr>
<th>State/Program</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYSERDA</td>
<td>Ongoing program to fund CHP and other energy efficiency projects</td>
</tr>
<tr>
<td>MA DOER</td>
<td>$40M in grants for energy resiliency projects</td>
</tr>
<tr>
<td>MD Energy Admin</td>
<td>Up to $500k grants for CHP projects</td>
</tr>
<tr>
<td>IL DCEO</td>
<td>Up to $2M grants for CHP projects</td>
</tr>
<tr>
<td>CA PUC</td>
<td>Ongoing SGIP grants. Recent mods – leaning toward favoring energy storage and biogas projects.</td>
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### Utility Incentives

<table>
<thead>
<tr>
<th>Incentive Area</th>
<th>Details</th>
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<tbody>
<tr>
<td>Alternative portfolio standards</td>
<td>and customer demand on the rise</td>
</tr>
<tr>
<td>Stability</td>
<td>and cost avoidance</td>
</tr>
<tr>
<td>Prescriptive and custom</td>
<td>project incentives</td>
</tr>
<tr>
<td>Utility-Community-Military</td>
<td>collaboration</td>
</tr>
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### “Green Bank” Initiatives

- CA, CT, HI, MA, NY
- Varied capitalization - Bonding, loans, grants, credit support
- Varied technology focus
- Accelerate the pace of private investment

### Clean Power Plan?? / Carbon Tax?? / Federal Infrastructure Renewal??

- CPP remains under review - likely DOA, repeal process u/w
- Does include a mechanism for Auction / Allocation of allowances and Potential for Reinvestment in CHP, DG, EE projects
- Carbon Tax – Was not gaining traction in recent years, but with the CPP stalled, several states considering carbon pricing schemes to spur a reduction in GHG emissions.
APPLICATIONS

tips, lessons learned and resources
Application Tips

The key elements of successful applications:

- Take the long view
- Team
- Technology
- Timing
Application Tips – Become a Partner

- Pursue precursor technical and financial assistance at a smaller scale
- Develop 2-3 page white papers
- Develop appropriate partnerships
- Hold meetings with career staff
## Application Tips

### Pursue precursor technical and financial assistance at a smaller scale

- Analytic grants
- Technical support
- Competitive solicitations
- Unsolicited proposals

### Develop appropriate partnerships

- End users
- Technology partners
- Design partners
- Construction partners
Application Tips

Develop 2-3 page white papers

- Create visibility
- Legislative support
- Industry support

Hold meetings with career staff

- Align priorities
- Risk reduction
- Legislative support
- Industry support
Lessons Learned

1. Accounting System Compliance
   - DCAA
   - Pre-Award Audits

2. Legal Review
   - Certs and Reps
   - FARS
   - Davis-Bacon

3. M&V Plan
   - Additional Instrumentation

4. Project Timing
   - Award Process
   - Cost Eligibility

5. Project Recognition
   - Ribbon cutting
   - VIP tours
   - Project profile
   - Peer reviews
   - Industry publications
Resources

Database of State Incentives for Renewables and Efficiency
DSIRE.org

Energy.Gov
energy.gov/public-services/funding-financing

EERE Energy Efficiency Exchange
eere-exchange.energy.gov

EPA-CHP Policies and Incentives Database
epa.gov/chp/policies/database

DOE Technical Assistance Partnerships
energy.gov/eere/amo/chp-technical-assistance-partnerships

State Energy Office websites

Utility websites