NYSERDA Energy

Efficiency Programs

ASHRAE Bi-Chapter Oct. Meeting
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Focus of today’s presentation
Overview of NYSERDA’s Commercial & Industrial Incentive Programs

**Energy Studies:** FlexTech, Technical Assistance Program, Audit Program

**Implementation:** Existing Facilities Program, New Construction

Overview of NYSERDA’s Residential Incentive Programs

**Multi-family Performance Program**
What is NYSERDA?

- Public benefit corporation
- Established by the New York State Legislature in 1975
- NYSERDA is tasked to address the State’s energy & environmental challenges

Mission

*Use innovation and technology to solve some of New York’s most difficult energy and environmental problems in ways that improve the State’s economy*
Incentives

• System Benefit Charge,
• Energy Efficiency Portfolio Standard (EEPS)

– Ratepayers
Commercial / Industrial

NYSERDA’s Program Structure:
Existing Buildings

- Project Identification/Energy Study
  - Audit Program
  - Flexible Technical Assistance
  - Technical Assistance Program

  Existing Facilities Program

- Project Implementation
Commercial & Industrial Programs

New Buildings
• New Construction / Green Buildings

Existing Buildings
• FlexTech / Technical Assistance
• Existing Facilities Program
Audits and Studies

Medium/Large Customers
- FlexTech
- Technical Assistance

Small Customers
- Energy Audit
Energy Audit Program

Eligibility:  < $75,000 in Annual ELECTRIC Bills

Offer:  Fuel-neutral energy walk-through

Cost:  

<table>
<thead>
<tr>
<th>Annual Electric Bills</th>
<th>Energy Audit Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; $25,000</td>
<td>$100</td>
</tr>
<tr>
<td>$25,000 - $75,000</td>
<td>$400</td>
</tr>
</tbody>
</table>

Note: Audit Fee is refundable if audit-recommended measures are implemented
FlexTech & Technical Assistance

Objective: Provide customizable, cost-shared energy studies

Areas of Focus

- Feasibility Studies
- Energy Master Plans
- Energy Procurement
- Retrocommissioning
- CHP/Renewables
- Load Curtailment
- Energy Advisor Consulting
FlexTech & Technical Assistance

Fuel Neutral

Cost Share
- 50/50 – energy related portion

Incentive Cap
- Con Edison: $1,000,000 over 5 years
- Upstate: $500,000 over 5 years
FlexTech & Technical Assistance

Flexible Technical Assistance (FlexTech)

- Customer chooses from one of 42 engineering firms under contract with NYSERDA.
- NYSERDA pays the engineer 50%, Customer pays the remaining 50%

Technical Assistance (TA)

- Customer uses their own service provider.
- Customer pays 100% study cost to the engineer; NYSERDA reimburses customer 50% upon approval of a final report.
FlexTech & Technical Assistance

How to Apply

Commercial Audit Program:
• Online referral form and pdf available at:
  http://www.nyserda.org/programs/energyAuditForm.asp

FlexTech:
• Online referral form and pdf available at:
  www.nyserda.org/programs/flextech.asp

Technical Assistance:
• Solicitation available on NYSERDA’s website:
  www.nyserda.org/Funding/1197PON.pdf
• Currently Program Opportunity Notice (PON) 1197.
Existing Facilities Program

- Installation / Implementation
- Incentives for Electric and Gas Efficiency
- Pre-qualified & Performance Based
Existing Facilities Program

Pre-Qualified Incentives

- Applicants can receive incentives ($/unit) for pre-qualified electric-efficiency measures & ConED gas
- Intended for smaller, less complex projects
- Projects can receive up to $30,000 through pre-qualified incentives.
- Pre-qualified Incentives are available for:
  - Lighting
  - Chillers
  - Refrigeration
  - Variable Frequency Drives (VFDs)
  - Commercial Kitchen Equipment and Washers
  - HVAC
  - Motors
  - Interval Meters
  - Gas Efficiency
Existing Facilities Program

Pre-Qualified Incentives

- Easy participation process.
- Minimum efficiencies set above standard practice.
- Check efficiency requirements to determine eligible equipment.
- Apply within 90 days of project purchase and installation.
- NYSERDA will review for eligibility, conduct site visit, and provide payment.
Existing Facilities Program
Performance Based Incentives

Electric Efficiency Incentives
Gas Efficiency Incentives
Demand Response
Energy Storage
Combined Heat and Power (CHP)
Industrial Process Efficiency
Existing Facilities Program
Performance Based Incentives

Electric Efficiency Incentives
Gas Efficiency Incentives
Demand Response
Energy Storage
Combined Heat and Power (CHP)
Industrial Process Efficiency
Existing Facilities Program

Performance Based Incentives

**Electric:**
- Incentive is paid based on the energy savings over 1 year
- Cap:
  - 50% of project cost
  - $2 million per site commercial customers
  - $5 million per site industrial customers
- All projects require a detailed engineering analysis to determine savings
- Pre and post implementation site inspections
- Large projects require M&V
- Incentives for energy saving process improvements

http://existingfacilities.nyserda.org
## Existing Facilities Program

### Performance-Based Incentives for NYS ConED and Upstate region

<table>
<thead>
<tr>
<th>Program Component</th>
<th>Incentive (ConED)</th>
<th>Upstate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Efficiency</td>
<td>$0.16 / kWh</td>
<td>$0.12 / kWh</td>
</tr>
<tr>
<td>Gas Efficiency (ConED Firm Gas)</td>
<td>$2 / therm</td>
<td></td>
</tr>
<tr>
<td>Demand Response</td>
<td>$200 / kW</td>
<td>$100 / kW</td>
</tr>
<tr>
<td>Energy Storage Systems</td>
<td>$600 / kW</td>
<td>$300 / kW</td>
</tr>
<tr>
<td>Industrial and Process Efficiency</td>
<td>$0.16 / kWh</td>
<td>$0.12 / kWh</td>
</tr>
<tr>
<td>Combined Heat and Power</td>
<td>$0.10 / kWh + $750 / kW</td>
<td>$0.10 / kWh + $600 / kW</td>
</tr>
</tbody>
</table>

$ 2 million facility cap, $5 million for IPE
Existing Facilities Program

Demand Response – Load Curtailment/Shifting

- Requires registration in DR program (NYISO/Con Edison)
  - Registrant also receives monthly payments from NYISO/ConED
- Identify and control discretionary loads
- Common measures include duty cycling, cooling load reductions, process shifting, lighting reductions, etc
- Incentive in $/kW curtailed to response to high price periods
  - $200/kW enabled in NYISO/ConED and up to 75% of eligible costs ($100/kW in upstate utilities)
  - Minimum size: 100 kW
- $/kW Bonuses available for fleet controlled equipment & appliances (HVAC, Load-shed lighting)
Existing Facilities Program

Demand Response – Emergency Generation

- **DG projects, emergency use only**
  - Supports NYISO/Con Ediosn DLRP DR participation
  - New generators
    - Emissions must meet NSPS criteria
  - Existing generators
    - Emissions < 7.5 g/bhp-h of Nox
    - Costs: interconnect, transfer switches...etc
  - $200/kW (/ $100/kW) enabled in NYISO/ConED and up to 75% of eligible costs
Existing Facilities Program

**CHP – Combined Heat & Power**

**Eligibility**

- Reciprocating engine or gas turbine-based CHP system
  - Microturbines and fuel cells – see R&D CHP demonstrations
- ≥ 250 kW installed or additional capacity
- 60% annual fuel conversion efficiency
- NO\textsubscript{x} emission rate ≤ 1.6 lbs/MWh
- Use 75% of generated energy on-site

http://chp.nyserda.org
Existing Facilities Program

Industrial Process Efficiency

Eligibility

- Minimum size: Must qualify for incentive of $10,000
- Cap: $5,000,000 or 50% of project cost

Target Industries
Chemicals, printing & publishing, metal finishing, data centers, ceramics, automotive & food processing
## Existing Facilities Program
### Performance-Based: Participation Process

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Step 1** | **Application**  
  *(Customer or Contractor)* |
| **Step 2** | **NYSERDA Reviews Application** |
| **Step 3** | **Applicant submits Engineering Analysis** |
| **Step 4** | **NYSERDA Consultant Reviews Analysis/Pre-Site Inspection** |
| **Step 5** | **Applicant Completes Project** |
| **Step 6** | **Applicant notifies NYSERDA consultant /Schedule Post-Site Inspection** |
| **Step 7** | **NYSERDA Consultant Conducts Site Visit/Collects Final Deliverables** |
| **Step 8** | **NYSERDA Provides Payment* (60% if project includes M&V)** |
New Construction Program

**Objective:** Transform the way buildings are designed and built

- Technical Assistance
- Capital Cost Incentives
- Green Building Services
- “Bonus” Incentives for LEED
New Construction Program

NCP Technical Assistance

Energy Analysis
• Submit an application before the schematic design phase is complete
• Conducted by a Technical Assistance (TA) provider
• Identify energy saving opportunities
• Computer energy modeling
• TA Report

NYSERDA Cost-share
• NYSERDA pays first $10,000
• Balance is cost-shared 50/50
• Capped at $100,000
New Construction Program

NCP Capital Cost Incentives*

Custom Measure
• $0.16 per kWh saved
  • $540 per summer peak kW saved
• Each measure must exceed Energy Code by at least 3%
• Capped at $1,000,000

Whole Building Design (*LEED)

3%-8% above Code - $0.18/kWh; $570/kW (summer peak)
8.1%-13% above Code - $0.19/kWh; $590/kW (summer peak)
13.1%-18% above Code - $0.20/kWh; $610/kW (summer peak)
18.1%-23% above Code - $0.21/kWh; $630/kW (summer peak)
23.1% above Code - $0.22/kWh; $650/kW (summer peak)

• Capped at 60% of incremental cost (75% cap for LEED)
• Maximum cap $1,500,000

*ConEd Territory incentive levels
New Construction Program

NCP - Green Building Services & LEED

Green Building Services
• TA helps identify green building opportunities
• NYSERDA cost shares 50/50
• Will not pay more than incentive given for Technical Assistance

LEED “Bonus” Incentives
• $7,500 for projects < 50,000 sq ft
• $15,000 for projects > 50,000 sq ft
• Capital cost incentive increased by 10% for projects with at least 3 EAc1 points (capped at $100,000)
• Capital cost incentive increased by 25% for projects with at least 4 EAc1 points (capped at $150,000)
On Suspension

Multifamily Performance Program

A New York Energy $mart℠ Program

Existing Buildings Component
Multifamily Performance Program

**MPP: Overall Goal:** Reduce your project’s energy usage by 20%

1. Hire a Multifamily Performance Partner.
2. Complete a Program Application and Participation Agreement.
3. Benchmark your project.
5. Implement the Energy Reduction Plan.
6. Confirm achievement of the target.
Multifamily Performance Program

Eligibility

• Existing building of 5 units or more
• Building must pay into the System Benefit Charge Fund
• Affordable housing eligibility based on 25% of units at 80% state median income or proxy
### MPP: Existing Building Incentive Structure

<table>
<thead>
<tr>
<th>Plan</th>
<th>Install</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCENTIVE #1</td>
<td>INCENTIVE #2</td>
<td>INCENTIVE #3</td>
</tr>
<tr>
<td>Base Incentive (for small buildings up to 30)</td>
<td>$800 / unit</td>
<td>$400 / unit</td>
</tr>
<tr>
<td>Base Incentive (for buildings from 31 to 100)</td>
<td>$10,000 / project</td>
<td>Performance</td>
</tr>
<tr>
<td>Incremental Incentive</td>
<td>$20 / unit over 100 units</td>
<td>Target</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Per unit</td>
</tr>
<tr>
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<td></td>
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</tr>
<tr>
<td>Incentive payable upon submission of a draft Proposed Energy Reduction Plan.</td>
<td>Incentive payable at 50% construction completion, based upon a successful interim inspection.</td>
<td>Incentive payable at substantial completion of construction, based upon a successful post-construction inspection and performance test(s) (as applicable).</td>
</tr>
<tr>
<td>INCENTIVE #4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Benchmark Score</td>
<td>Performance</td>
<td>Target</td>
</tr>
<tr>
<td>&lt;= 25 points</td>
<td>20%</td>
<td>$400</td>
</tr>
<tr>
<td>&gt;=26, but &lt;= 50 points</td>
<td>20%</td>
<td>$375</td>
</tr>
<tr>
<td>&gt;= 51, but &lt;=75 points</td>
<td>20%</td>
<td>$350</td>
</tr>
<tr>
<td>&gt; 75 points</td>
<td>20%</td>
<td>$325</td>
</tr>
<tr>
<td>For every % exceeding the Performance</td>
<td>$40</td>
<td>$20</td>
</tr>
</tbody>
</table>

*Total incentives cannot exceed 100% of project cost as listed in final Energy Reduction Plan.*
Conclusion

- Energy consumption and costs are increasing.
- There are opportunities to improve the energy performance of most facilities.
- Energy efficiency is less expensive than energy production.
- Many energy measures also generate economic, process, comfort and environmental benefits.

NYSERDA can help!
Further NYSERDA Assistance

www.nyserda.org

General program information:
1-866-NYSERDA (697-3732)

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