

NYSERDA

New York State  
Energy Research and  
Development Authority



# NYSERDA Energy Efficiency Programs

ASHRAE Bi-Chapter Oct. Meeting  
Oct. 14<sup>th</sup> 2009

Harris Schaer, Asst. Project Manager  
[hms@nyserda.org](mailto:hms@nyserda.org)

---

## 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**

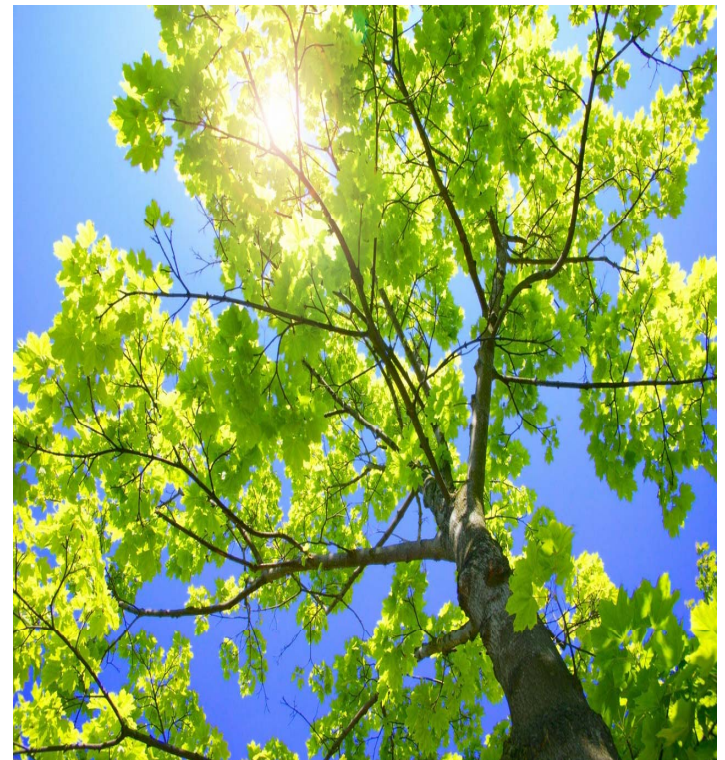
# What is NYSERDA?

---

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

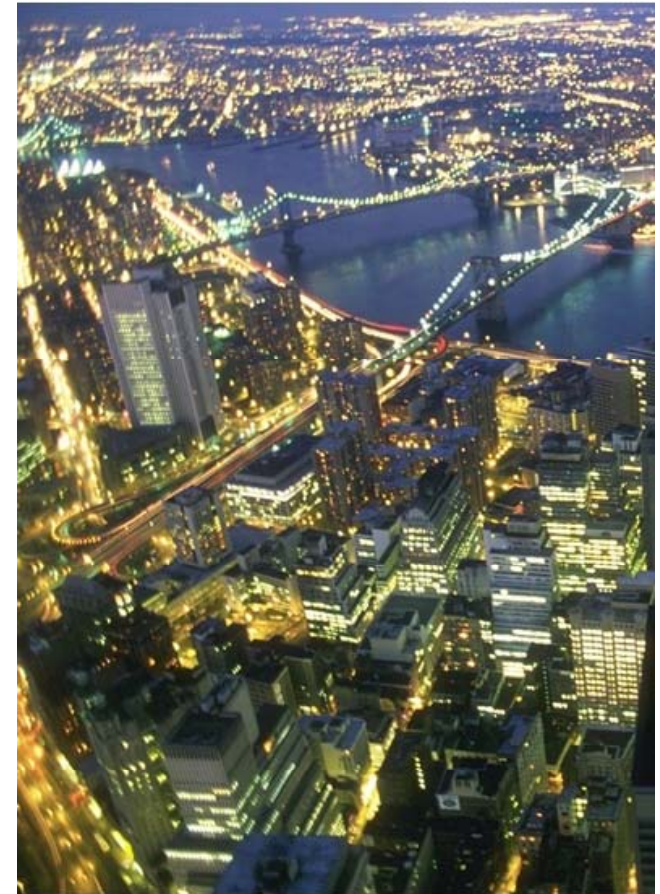
## **Mission**

*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*



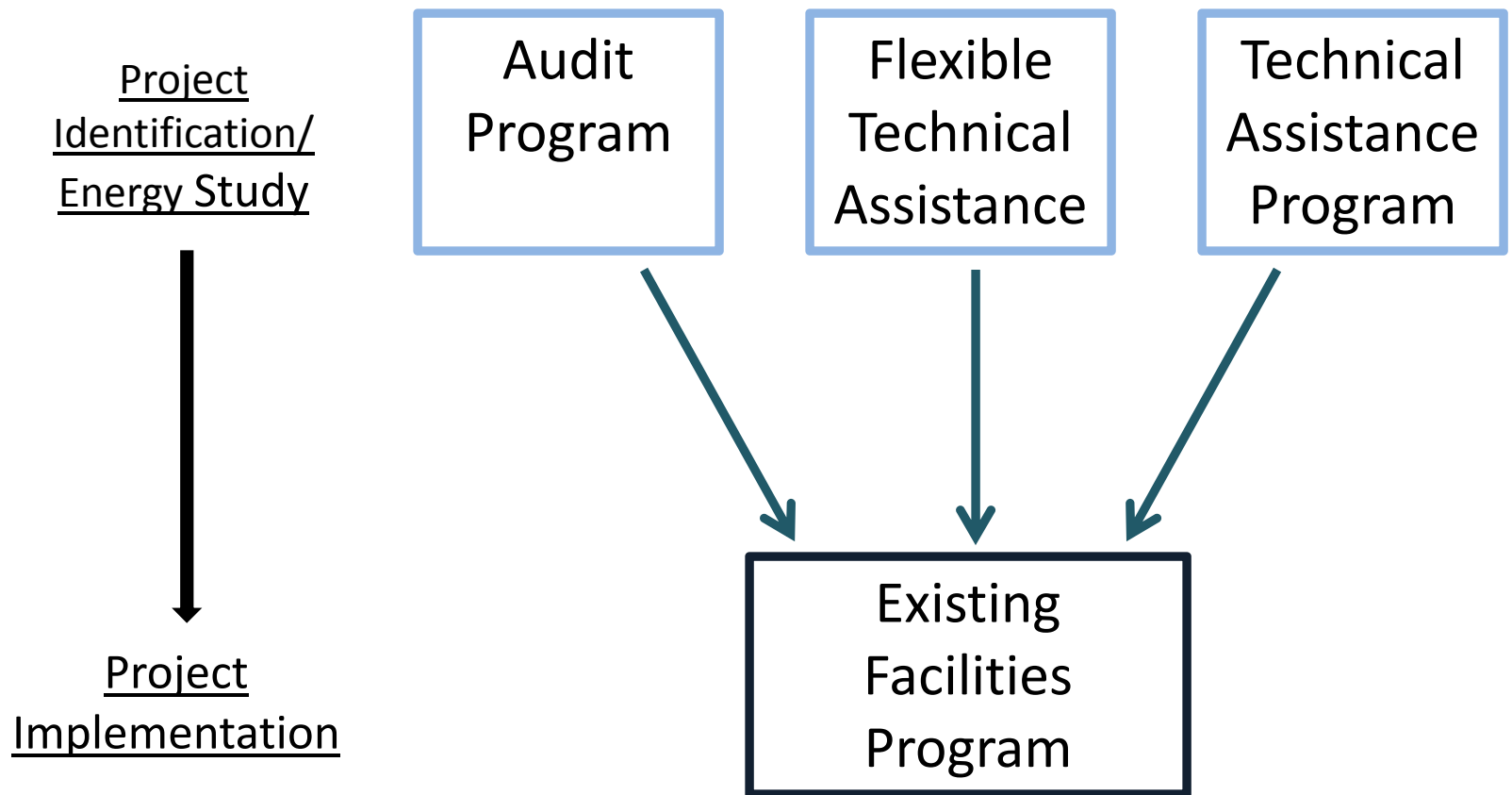
# Incentives

- System Benefit Charge,
- Energy Efficiency Portfolio Standard (EEPS)
  - Ratepayers



## Commercial / Industrial

# NYSERDA's Program Structure: Existing Buildings





---

# 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**

- **Energy Audit**

Small  
Customers

---

# Energy Audit Program

---

**Eligibility:** < \$75,000 in Annual ELECTRIC Bills

**Offer :** Fuel-neutral energy walk-through

**Cost:**

Annual Electric Bills	Energy Audit Fee
< \$25,000	\$100
\$25,000 - \$75,000	\$400

*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](http://www.nyserda.org/programs/flextech.asp)

### Technical Assistance:

- Solicitation available on NYSERDA's website:  
[www.nyserda.org/Funding/1197PON.pdf](http://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.



**NYSERDA**

New York State  
Energy Research and  
Development Authority

---

# Existing Facilities Program

## Performance Based Incentives

---

**Electric Efficiency Incentives**

**Gas Efficiency Incentives**

**Demand Response**

**Energy Storage**

**Combined Heat and Power (CHP)**

**Industrial Process Efficiency**

**NYSERDA**

New York State  
Energy Research and  
Development Authority

---

# 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

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

**\$ 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
- $\geq 250$  kW installed or additional capacity
- 60% annual fuel conversion efficiency
- $\text{NO}_x$  emission rate  $\leq 1.6$  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

---

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

---

# 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

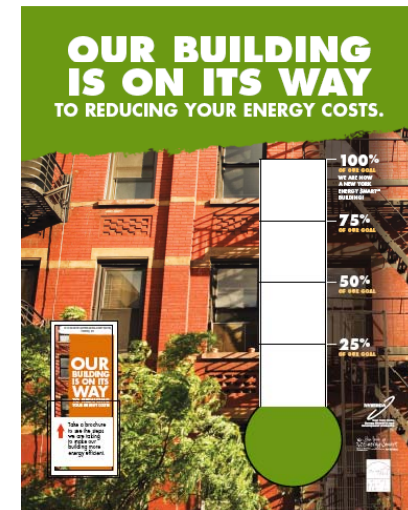
### LEED “Bonus” Incentives

- \$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<sup>SM</sup> 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.
4. Develop an Energy Reduction Plan.
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

		<b>AFFORDABLE HOUSING*</b>	<b>MARKET-RATE HOUSING*</b>
<b>Plan</b>	<b>INCENTIVE #1</b>		
	Base Incentive (for small buildings up to 30	\$5,000 / project	\$2,500 / project
	Base Incentive (for buildings from 31 to 100	\$10,000 / project	\$5,000 / project
	Incremental Incentive	\$20 / unit over 100 units	\$10 / unit over 100 units
<b>Install</b>	Incentive payable upon submission of a draft <u>Proposed Energy Reduction Plan</u> .		
	<b>INCENTIVE #2</b>	\$800 / unit	\$300 / unit
	Incentive payable at 50% construction completion, based upon a successful interim inspection.		
<b>Measure</b>	<b>INCENTIVE #3</b>	\$400 / unit	\$300 / unit
	Incentive payable at substantial completion of construction, based upon a successful post-construction inspection and performance test(s) (as applicable).		
	<b>INCENTIVE #4</b>	<b>Performance</b>	
	<b>Initial Benchmark Score</b>	<b>Target</b>	<b>Per unit</b>
	<= 25 points	20%	\$400
	>=26, but <= 50 points	20%	\$375
	>= 51, but <=75 points	20%	\$350
	> 75 points	20%	\$325
	For every % exceeding the Performance		\$40
			\$20
*Total incentives cannot exceed 100% of project cost as listed in final <u>Energy Reduction Plan</u> .			

## NYSERDA Energy Efficiency Programs

---

# 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!**



## NYSERDA Energy Efficiency Programs

---

# Further NYSERDA Assistance

[www.nyserda.org](http://www.nyserda.org)

General program information:

1-866-NYSERDA (697-3732)

## In NYC (212) 971-5342

Emma Bassein ext 3017 – EFP

Harris Schaer ext 3021 – EFP [hms@nyserda.org](mailto:hms@nyserda.org)

Sandy Hwang ext 3009 – FlexTech / TA

Rachel Adams ext 3016 – FlexTech / TA

Clararose Voigt ext 3007 – FlexTech /TA

Allison Leighton ext 3015 – NC

Lindsay Rozan ext 3008 – Multi-family Residential