Specialized Innovation Workshop: Enhancing Economic Competitiveness through Going Green

Promoting Energy Efficiency

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Where do I get help?

- ESCOs
- Industrial Assessment Center (IAC)
- NYSERDA – New York State Energy Research Development Authority
- Utilities
  - National Grid
  - NYSEG/RG&E
- NYPA – New York Power Authority
- Others
  - Regional Technical Development Centers (RTDCs)
  - Pollution Prevention Institute (P2I)
  - Empire State Development – Environmental Services Unit
Energy Assessment

- Energy Contractors ESCOs
  - Complete a free audit
  - Compute potential savings
    * Usually for lighting
  - Offer to finance the change out
    * Have payment options of 36, 48 or 60 months
  - Share savings with your company during the financing time period
    * Be sure to verify projected costs vs current costs
Energy Service Companies (ESCO)

- Identify and evaluate energy-saving opportunities
- Develop engineering designs and specifications
- Manage the project from design to installation to monitoring
- Arrange for financing
- Train your staff and provide ongoing maintenance services
- Guarantee that the savings will cover all project costs
<table>
<thead>
<tr>
<th>Description</th>
<th>Typical Applications</th>
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<tbody>
<tr>
<td><strong>A</strong> Partially Measured Retrofit Isolation</td>
<td>Savings are determined by partial field measurements of the energy use of the system(s) to which and ECM was applied. Some, but not all, parameters may be stipulated. Lighting retrofit where pre- and post –retrofit fixture wattages are measured. Operating hours of the lights are typically agreed upon.</td>
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<tr>
<td><strong>B</strong> Retrofit Isolation</td>
<td>Savings are determined by field measurement of the energy use of the systems to which the ECM was applied. Variable speed drive on a pump. Electricity use is measured by a kWh meter installed on the electrical supply to pump motor.</td>
</tr>
<tr>
<td><strong>C</strong> Whole Facility</td>
<td>Savings are determined by measuring energy use at the utility meter level. Bills may be corrected for weather. Many ECMs affecting many systems in a building. Utility Bills are used.</td>
</tr>
<tr>
<td><strong>D</strong> Calibrated System</td>
<td>Savings are determined using building simulation. Rarely used. When there is no pre-retrofit utility data available. Multifaceted energy mngmnt program affecting many systems in a building.</td>
</tr>
</tbody>
</table>
ESCO Working Model

Before Energy Savings Costs

After Estimated Energy Savings Costs

- Maintenance Cost
- Energy Cost
- Savings
To be eligible for an IAC assessment, a manufacturing plant typically meets these criteria:

• Within Standard Industrial Codes (SIC) 20-39.  
  Woodworking = SIC 24
• Within 150 miles of a host campus.  Syracuse University
• Gross annual sales below $100 million.
• Fewer than 500 employees at the plant site.
• Annual energy bills more than $100,000 and less than $2 million.
• No professional in-house staff to perform the assessment.
Industrial Assessment Centers

- IAC
  - Engineering Students
    * During school year
    * Based on allocated time available
    * 1 day assessment
    * Report in 60 days
    * Supervised by faculty advisor
    * Mixed Reviews
      - Student constraints
      - Company constraints
Eligibility
- Company **must** pay a Systems Benefit Charge (SBC)
- Facility must be in New York State

Programs
- FlexTech
- Existing Facilities Program
- Industrial Process Efficiency
- Free Energy Audits – Small Business
Comprehensive, customized energy studies

- Annual utility cost > $75,000
- Incentive up to $1 million or 10% of energy cost
- Cost share 50/50

Identifies cost effective, site specific energy strategies

Can use NYSERDA consultant or Independent consultant
Pre-Qualified Incentives **(SBC)**
- Cap at $30,000/year
- Available on a $/unit basis for:
  - Lighting
  - HVAC
  - Chillers
  - Motors (ex. 100 hp 1200 RPM TEFC NEMA 95% = $400)
  - VFD’s
  - Refrigeration
  - Commercial Kitchen Equipment
- Performance Based Incentives
  - Electric and/or Gas Efficiency *(SBC)*
    * Compressors, VFDs, Furnaces, H₂0 Heaters, Heating units
    * Energy analysis required
    * Incentives $.12/kWh or $15/mm BTU energy savings/yr
    * CAP: 50% of project cost or $2 million/site (2 yrs)
    * Minimum: $10,000/project incentive
    * Can bundle projects
    * Measurement & Verification if > 500,000 kWh or 10,000 MM BTU
Productivity Based Incentives *(SBC)*

- Calculated on energy cost/part made
  - Improved efficiencies
  - Reduced scrap
  - Increased yields
  - Reduced overtime
  - Reduced footprint
- If you can calculate energy savings, we have an incentive!
Incentives:
• Electric Efficiency $.12/kWh
• Natural Gas Efficiency $15/MM BTU

Eligibility
• Manufacturer or Data Center (SBC)

Measurement
• Energy saved per unit produced

Minimum
• $10,000 project incentive

M&V
• Required > 500,000 kWh
Free Energy Audit

- Eligibility
  - Average Electric Demand of 100kW or less
  - Do Not Have to Pay an SBC
  - 10 employees or less = Green Jobs Green New York
  - > 10 employees = American Recovery and Readjustment Act (ARRA)
    - After ARRA funds are depleted the energy audit cost = $400
National Grid – RG&E – NYSEG

- Small Business = Average Demand < 100 kW *(SBC)*
- Program:
  * Free audit
  * Install energy efficient measures on your site
  * Utility pays for up to 70% of cost – material, labor etc
  * You can pay your share at time of completion – 15% discount
    - OR – you can pay over 24 month interest free.
Local Utilities

- National Grid – Large Energy Users > 100 kW
  * Energy Initiative Program Overview
  * Custom Projects
  * Lighting and Controls
  * Compressed Air
  * Motor replacement
  * Energy Management Systems (EMS)
  - Eligibility *(SBC)*
- www.powerofaction.com
Companies in EDZ don’t pay a (SBC)

National Grid Empire Zone Incentive Program

- Energy Efficiency in Empire Zones
  * Provides incentives to eligible customers to install energy efficient or productivity enhancement systems
  * Incentive not > $25,000 or > 50% of the project cost
  * Customer must fund at least 25% of the project cost
Eligibility: **(NO SBC)**

- Be the owner of the eligible business and:
  - Be a certified Empire Zone customer
  - Be receiving energy delivery benefits under National Grid’s Empire Zone Rider (EZR) Program or undertaking a EZR qualifying expansion
- Grants apply to energy efficiency equipment
  - Up to $25,000 – not to exceed 50% of the total cost
  - Customer must fund at least 25% of the total cost
  - Funding available until 12-31-2011.
Manufacturers Productivity Program *(NO SBC)*

- Productivity Improvement (Lean)
  - $15,000 OR 40% of cost of the project whichever is less
- New Product Development (NPD) (Eureka) (Lean)
  - $15,000 or 50% of cost of the project whichever is less
- Combined Productivity Improvement and NPD
  - $40,000 or 60% of cost of the project whichever is less

Customer may apply for other grants but has to fund at least 25% of the total project cost.

- *Must apply through your local RTDC!*
Coming Attraction:
• Recharge New York
  * Informational Sessions in the Fall
  * Replaces Jobs for Growth
  * 50% hydropower and 50% market power
Other Resources

- New York State Pollution Prevention Institute (P2I)
  - www.nysp2i.rit.edu
- CAT’s – Centers for Advanced Technology
- Empire State Development – Environmental Services Unit (ESU)
- Regional Technical Development Centers (RTDC)
Questions?

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