Financing Efficiency

Greg Swiss
Energy Engineer
University of Illinois
Financing Energy Efficiency

• State-based Funding:
  • Energy Efficiency Portfolio Programs
  • Training & Education Programs
  • Renewable Energy Grants
• ICECF Foundation Grants
• Federal Tax Incentives
• ISBE Energy Efficiency Grants
Energy Efficiency Portfolio Standard (EEPS)

• EEPS - energy efficiency programs that provide for incentives for customers of investor owned electric and natural gas utilities to encourage them to purchase and install high efficiency equipment and systems to reduce electricity use.

• Goals ramp up to an annual reduction in electricity usage by 2.0% in 2015 and in natural gas usage by 1.5% in 2019.

• 75% by utilities and 25% DCEO for public and low-income sectors.
IL EEPS PROGRAM STRUCTURE

- IL legislation sets energy efficiency goals for utilities.
- SEDAC’s funding is from IL Utilities through DCEO.
- SEDAC Provides SERVICES to both Public and Private Sectors.
Estimated DCEO Budget for Illinois Energy Now Portfolio of Programs

<table>
<thead>
<tr>
<th>Year</th>
<th>Electric</th>
<th>Natural Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12</td>
<td>$ 54 million</td>
<td>$15 million</td>
</tr>
<tr>
<td>2012-13</td>
<td>$ 55 million</td>
<td>$19 million</td>
</tr>
<tr>
<td>2013-14</td>
<td>$ 55 million</td>
<td>$25 million</td>
</tr>
</tbody>
</table>

Public Benefit Funds from ComEd & Ameren Illinois Electric utility customer’s rider on electric bill effective June 1, 2008.
## 2011-2012 Program Year PSEE
Standard and Custom Estimated Funding Available

<table>
<thead>
<tr>
<th>Funding Level</th>
<th>Ameren Electric</th>
<th>ComEd</th>
<th>Ameren Natural Gas</th>
<th>Nicor</th>
<th>Peoples</th>
<th>Northshore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 4 Budget</td>
<td>$7.7 M</td>
<td>$20.2 M</td>
<td>$2.0 M</td>
<td>$4.4 M</td>
<td>$1.2 M</td>
<td>$271 K</td>
</tr>
</tbody>
</table>

Year 4 funds are available for projects completed 6/1/11 – 5/15/12.
Where the public sector facility receives electric power delivery from Ameren Illinois or ComEd, the facility is eligible for electric efficiency incentives for those measures that produce electric savings. Measures include; lighting, HVAC equipment, motors, kitchen equipment.

Where the public sector facility receives natural gas delivery from Ameren Illinois, Nicor, Peoples or North Shore, the facility is eligible for natural gas efficiency incentives for those measures that produce natural gas savings. Measures include; HVAC equipment, water heaters, kitchen equipment.

Where the public sector facility is located in both a participating electric service area and natural gas service area, facility is eligible for both electric and natural gas efficiency incentives.
Eligibility and Funding Availability
www.illinoisenergy.org

Please Check here for Funding Availability before proceeding with Application for Illinois Energy Now Public Sector Standard and Custom Incentive Programs.

Table 1. Funding Availability June 1, 2011

<table>
<thead>
<tr>
<th>ELECTRIC</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ameren</td>
<td>Yes</td>
</tr>
<tr>
<td>ComEd</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NATURAL GAS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ameren</td>
<td>Yes</td>
</tr>
<tr>
<td>Nicor</td>
<td>Yes</td>
</tr>
<tr>
<td>North Shore</td>
<td>Yes</td>
</tr>
<tr>
<td>Peoples</td>
<td>Yes</td>
</tr>
</tbody>
</table>
ILLINOIS ENERGY NOW (IEN)  
Standard Incentive Program

Provides set or “Standard” incentives for common upgrades:

Electricity
- Lighting Equipment
- HVAC Equipment
- Kitchen Equipment
- Motors and Drives
- LED traffic signals

Natural Gas
- Gas Furnaces
- Water Heaters ≥50 gallon (Tanked & Tankless)
- Boilers
- Condensing Boiler
- Kitchen steam cookers
- Low Flow spray valves
Incentive for retrofitting existing T12 lamps and magnetic ballasts with high performance T8 lamps and electronic ballasts. This measure is based on the Consortium for Energy Efficiency (CEE) high performance T8 specification (www.cee1.org). A list of qualified lamps and ballasts can be found at: http://www.cee1.org/com/com-lt/com-lt-main.php3. Indicate from the list which lamps and ballasts will be installed. You may attach the list and circle the items that will be used. Both the lamp and ballast must meet the specification in order to qualify for an incentive. Incentives for this measure are calculated per lamp installed.

<table>
<thead>
<tr>
<th>High Performance or Reduced Wattage</th>
<th>Incentive paid per Lamp Retrofit</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-foot Lamp and Ballast</td>
<td>$13.00 per Lamp</td>
</tr>
<tr>
<td><strong>Reduced Wattage 8-Foot T-8</strong></td>
<td></td>
</tr>
<tr>
<td>8-foot Lamp and Ballast</td>
<td>$22.00 per Lamp</td>
</tr>
<tr>
<td><strong>Specialty T-8 Lamps and Ballasts</strong></td>
<td></td>
</tr>
<tr>
<td>4-foot U Tube and Ballast</td>
<td>$7.00 per Lamp</td>
</tr>
<tr>
<td>2-foot Lamp and Ballast</td>
<td>$7.00 per Lamp</td>
</tr>
<tr>
<td>3-foot Lamp and Ballast</td>
<td>$12.00 per Lamp</td>
</tr>
</tbody>
</table>
IEN *Standard Incentive Program*

**Lighting Delamp/Permanent Lamp Removal During Existing Fixture Retrofit**

<table>
<thead>
<tr>
<th>Delamp, Permanent Lamp Removal</th>
<th>Incentive Paid Per Lamp Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delamp, 4-foot Lamp, Ballast, Holders</td>
<td>$12.00 per Lamp</td>
</tr>
<tr>
<td>Delamp, 8-foot Lamp, Ballast, Holders</td>
<td>$15.00 per Lamp</td>
</tr>
<tr>
<td>Delamp, 4-foot Lamp, add Reflector</td>
<td>$22.00 per Lamp</td>
</tr>
<tr>
<td>Delamp, 8-foot Lamp, add Reflector</td>
<td>$29.00 per Lamp</td>
</tr>
</tbody>
</table>

De-lamp is the net reduction in the number of lamps in a fixture. Applicants are responsible for determining whether or not to use reflectors in combination with lamp removal in order to maintain adequate lighting levels. Lighting levels are expected to meet the Illuminating Engineering Society of North America (IESNA) recommended light levels. Unused lamps, lamp holders, and ballasts must be permanently removed from the fixture and disposed of in accordance with local regulations. This measure is applicable when retrofitting from T12 lamps to T8 lamps or reconfiguring a T8 fixture to reduce the number of lamps. Removing lamps from a T12 fixture that is not being retrofitted with T8 lamps are not eligible for this incentive.
IEN Standard Incentive Program
Lighting New Fluorescent Fixture with High Performance T8 or T5 Lamps

<table>
<thead>
<tr>
<th>High Performance T8/T5 New Fluorescent Fixtures with Electronic Ballast</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Existing Fixture Watts less total New Fixture Watts</td>
<td>$0.75 per Watts Reduced</td>
</tr>
</tbody>
</table>

Submit manufacturer specification sheet that shows new fixtures meet the new fixture specs:

- The T8 or T5 lamps must have a color rendering index (CRI) $\geq 80$.
- The electronic ballast must be high frequency ($\geq 20 \text{ kHz}$), UL listed, and warranted against defects for 5 years.
- Ballast power factor (PF) $\geq 0.90$.
- Ballasts for 4-foot lamps total harmonic distortion (THD) $\leq 20\%$.
- Ballasts for 2- and 3-foot lamps total harmonic distortion THD $\leq 32\%$.
- High output T5/T8 lamps also qualify for this rebate.

Projects with new T8 or T5 fixtures that operate $\geq 6,000$ hours per year (such as 24-hour facilities) may apply under the Custom Incentive Program.
Township High School District 214

Existing T-8 fluorescent fixtures reconfigured to remove lamps and re-lamped 32W T-8 lamps to reduced wattage 25W T-8 lamps. Replaced existing incandescent lamps with CFLs. Installed occupancy sensors.

Total project cost $160,000
Illinois Energy Now Incentive $ 90,000
Total Cost to School $ 70,000

Estimated energy saved: 913,416 kWh per year
Estimated cost savings:$75,000 per year
Payback = 1 year

Calculated during year 2 of the Illinois Energy Now program
Incentives for electric air conditioning equipment.

Incentives added for:

- Natural gas furnaces and boilers.
- Ground Source Heat Pumps (GSHP):
  - Baseline all electric.
  - Baseline electric HVAC and natural gas heating.
  - Baseline existing GSHP ≤ 13 EER.
- Natural gas water heaters:
  - Tanked
  - Tankless
  - Condensing
Incentives available for 25 hp to 200 hp replacement motors where existing motor would have been rewound.

- 25 hp to 100 hp motors incentive = $4.50 per hp.
- 125 hp to 200 hp motors incentive = $4.00 per hp.

VSD standard incentive no longer limited to HVAC equipment.

- VSD for existing motors ≤ 200 hp incentive = $92 per hp.
- VSD and Motors > 200 hp may be eligible for a custom incentive.
Refrigeration Incentives now Kitchen Incentives.

New Incentives added include:

- ENERGY STAR® freezer incentive = $5 or $6 per ft$^3$
- ENERGY STAR glass door refrigerator incentive = $6 per ft$^3$
- Pre-Rinse Spray Valves incentive = $32.00 each
- Low Flow Faucet Aerator incentive = $8.00 each
- Electric and Natural Gas Steam Cookers incentives depend on fuel type and pan quantity
Illinois Energy Now
Custom Incentive Program

- For those electric and/or natural gas efficiency measures not listed in Standard Incentive Program.
- Electric Custom Incentive = $0.12 per annual kWh savings.
- Natural Gas Custom Incentive = $1.25 per annual therms savings.
- Simple payback must be 1 to 7 years.
- Exterior LED or Induction Lighting Incentive = $0.30 per annual kWh savings.

Not to exceed 75% of project cost to a maximum of $300,000.
Public Sector Retro-Commissioning Program

- Provides public sector funding to identify and implement low cost tune-ups and adjustments to existing building operating systems with a focus on HVAC and building control systems.
- Pilot projects included Peoria Civic Center, Normal Children's’ Discovery Museum, WIU, Champaign Police Station, and Decatur Civic Center.
- Tune-up opportunities not end-of-life.
Public Sector Retro-Commissioning Program

- Year 4 is now full at 27 projects.
- Must be either Ameren or ComEd customer.
- Link to application/RCx Program Manual on the web site:
  http://smartenergy.arch.uiuc.edu/html/RCxProgram.html
- Client must commit to $10K worth of building improvements based on RCx study.
- Limited to existing buildings over five years old, >150,000 sf that have potential to save electricity.
Illinois Energy Now
New Construction Program

- Encourages applicants to design new or rehabbed buildings to achieve the greatest level of energy efficiency.
- SEDAC can help with the design phase too!
- Offers $0.08/kWh and $0.80/therm incentives for facility design improvements beyond code.
- Design Bonus offered for LEED buildings.
- Estimated electricity savings must be documented by energy modeling and/or supporting calculations.
New Illinois Energy Now Program
Public Sector Aggregation

- Allows local governments and non-profit entities serving the public sector to combine projects.
- Allows unique approach to serve different sectors.
- Aggregator will manage project implementation.
- New delivery channel to hard-to-reach customers.
- Training and Technical Assistance will be provided.
- 2011 – 2012 Award recipients:
  - City of Chicago
  - IGEM – Community College Sustainability Network
  - Metro Mayors Caucus
  - Illinois County Commissioners Association
Illinois Energy Now

Natural Gas Boiler Tune-Up Special

- Provides cash incentives to encourage owners of natural gas boilers (> 200,000 Btuh) to invest in a boiler tune-up by a qualified contractor.
- Encourages contractors to identify further energy saving opportunities with the boiler system (steam trap and pipe insulation repair).

Heat Source MUST be Natural Gas

Applications accepted from 9/1/11 through 2/29/12
Boiler Tune-Ups:
- Boiler size >200,000 Btuh.
- High/Low ($300) or Fully Modulating ($600).
- No previous tune-up within last 24 months.

Steam traps:
- For traps that are leaking steam (failed “open”).
- Detection method (pyrometer, ultrasound or visual).
- $60 per individual steam trap.
- No previous scheduled maintenance within 24 months.
Building Industry Training & Education

New Programs

Trade Ally Training
- Coordinate statewide effort to educate DCEO trade allies to assist Public Sector entities in applying for Illinois Energy Now programs, provide incentives for trade allies.

Community College Training Program
- Coordinate energy efficiency training for students, community college staff and facility managers to achieve energy savings goals across community college system.

Low Income Implementation Assistance
- Provide technical assistance to affordable housing developers and building owners/landlords in improving energy efficiency of existing and new low income housing.
Illinois Energy Now
Public Sector Program Contacts

- New Applications: Sally Agnew, 217.785.5081
  sally.agnew@illinois.gov
- Local Government: Andrea Reiff, 217.785.0164
  andrea.reiff@illinois.gov
- Public Schools & Community Colleges: Byron Lloyd,
  217.785.3412, byron.lloyd@illinois.gov
- Public Universities and Colleges: Tom Coe, 217.785.2433
  tom.coe@illinois.gov
- Retro-commissioning & New Construction: Tom Coe,
  217.785.2433 tom.coe@illinois.gov
- Low Income: Don Falls, 217.785.1997 don.falls@illinois.gov
- Natural Gas Boiler Tune-Up: Stefano Galiasso,
  312.996.8646, boiler@uic.edu
# Key Web Links

<table>
<thead>
<tr>
<th>Link</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.illinoisenergy.org">www.illinoisenergy.org</a></td>
<td>DCEO Energy Programs: guidelines, RFPs, contacts, applications, and other resources</td>
</tr>
<tr>
<td><a href="http://www.ComEd.com">www.ComEd.com</a></td>
<td>ComEd Smart Ideas Business Solutions Programs</td>
</tr>
<tr>
<td><a href="http://www.nicor.com">www.nicor.com</a></td>
<td>Nicor Business Programs</td>
</tr>
<tr>
<td><a href="http://www">www</a>. Peoplesgasdelivery.com</td>
<td>Peoples Energy Efficiency Business Programs</td>
</tr>
<tr>
<td><a href="http://www">www</a>. northshoregasdelivery.com</td>
<td>Northshore Energy Efficiency Business Programs</td>
</tr>
<tr>
<td><a href="http://www.illinoiscleanenergy.org">www.illinoiscleanenergy.org</a></td>
<td>IL Clean Energy Community Foundation</td>
</tr>
<tr>
<td><a href="http://www.sedac.org">www.sedac.org</a></td>
<td>Smart Energy Design Assistance Center</td>
</tr>
</tbody>
</table>
The Bureau of Energy and Recycling seeks to demonstrate the economic development benefits, including job creation, of energy efficiency, renewable energy, and recycling through a variety of programs and services. Further, Bureau programs will demonstrate that economic development, sustainable energy, recycling practices, and environmental protection go hand in hand.

In addition, the Bureau will continue to promote the leadership of the State of Illinois, through its own energy and recycling policies and practices, at state facilities. Individually tailored programs are available to assist Illinois citizens, communities, non-profit organizations, businesses, industry, and other government agencies in an effort to achieve the Bureau's mission.

Click here for a summary of Bureau of Energy and Recycling programs.
Custom Exterior Induction, LED Lights = $0.30/kWh

For Public Universities, State and Federal Government:
- Incentives will increase 15% over PY2
- Standard VSD = $75/HP
- Custom = $0.09/kWh
- Custom Exterior Induction, LED Lights = $0.23/kWh

**Standard and Custom Incentive Programs**
Provides grants and rebates to public sector entities for electric system efficiency improvements. The Standard Incentive Program provides set incentive levels for common retrofits for lighting, HVAC, variable frequency drive controls, motors and refrigeration. The Custom Incentive Program provides incentives for electric efficiency improvements not listed in the Standard Incentive Program.

**Guidelines for Local Government, Public Schools and Community Colleges**

Fillable Forms for Local Government, Public Schools and Community Colleges includes Application, Certification, and Standard Incentive Worksheets

**Guidelines for Public Universities, State and Federal Government**

Fillable Forms for Public Universities, State and Federal Government includes Application, Certification, and Standard Incentive Worksheets

**Natural Gas Energy Efficiency Programs**

The Natural Gas Energy Efficiency Programs authorized by Public Act 96-0033 will start June 1, 2011. Watch this website for further information on the program and for grant/whats...
Application Process Steps

Step 1: Submit a Pre-approval Application
Click the Pre-approval check box on the application
Complete the appropriate worksheet
Pre-Approval Applications need customer signatures

Step 2: Receive Notice to Proceed from DCEO

Step 3: Install Equipment or Perform Project Work
Maintain documentation

Step 4: Submit a Final Application
Click the Final check box on the application
Submit all required supporting documentation
Final applications need customer signature

Step 5: DCEO Processes Rebate or Grant
Illinois Municipal Electric Agency (IMEA)  
Electric Efficiency Programs

- Standard Incentive Program
- Custom Incentive Program
- Rodd Whelpley
- 217.789.4632
- rwhelpley@imea.org
Technical Assistance/Training & Education – Statewide Eligibility

Energy Audits, Design Assistance

- Smart Energy Design Assistance Center (SEDAC)
- Large-Customer Energy Analysis (LEAP)
- Energy Performance Contracting (EPC)

Training & Education

- Business Industry Training & Education
- Code Training
- Building Operator Training
- Lights for Learning
- Green-Jobs Grants
Smart Energy Design Assistance Center (SEDAC)

- Partnership with the University of Illinois, SEDAC Design Assistance Experts and Energy Service Providers.
- Assist public sector and private building owners identify opportunities to save energy and money.
- Provides energy assessments, analyses, and design assistance including:
  - Design review and/or site inspection.
  - Computer modeling of base case and alternatives with ECRMs.
  - Energy savings analyses.
  - Life cycle cost analyses.
  - Final report with recommendations.
- Energy service provider list.
- Public Sector Retro-Commissioning Program

www.sedac.org
Energy Performance Contracting (EPC) Technical Assistance

- Energy performance contracting redirects energy, water and operations & maintenance savings to amortize building improvements without up-front costs. Performance and savings are guaranteed over term of contract.

- DCEO provides no cost technical assistance and advice that includes boilerplate documents:
  - Request for Proposal
  - Energy Audit Agreement
  - Energy Service Agreement

- Measurement and Verification Assistance

For more information contact Wayne Hartel, 217.785.3420, wayne.hartel@illinois.gov
Training & Education

Programs to train students and the building industry as well as to enhance the capacity of efficiency service providers, in order to meet long-term EEPS goals.
DCEO Solar and Small Wind Energy Rebate Program

- Rebates and grants available to businesses, public sector, non-profit entities, and residential customers that pay into the Renewable Energy Resources and Coal Technology Development Assistance Charge:
  - 30% of total project cost available for residential & business.
  - 50% of total project cost available for public sector and non-profit.
  - $50,000 maximum award.
  - FY12 already gone. FY13 next September.
  - Info on www.illinoisenergy.org
Illinois Clean Energy Community Foundation (ICECF)

- Green Building Design and Commissioning Program:
  - Must be seeking LEED-NC v3 or LEED for Schools 2009 certification.
  - $75k for LEED Silver and 20% beyond code.
  - $150k for LEED Gold and above and 25% beyond code.
  - Must spend certain amount on commissioning.
  - State funded projects must be seeking LEED Gold or higher, since LEED Silver is required anyway.

www.illinoiscleanenergy.org
ICECF Cyclical Grants

- **New Green Buildings**: Installation of *innovative high performance energy systems* not yet widely adopted in Illinois with energy performance characteristics above minimum Illinois energy code standards. Such systems should help earn points towards attainment of a LEED Silver or higher "green" building rating.

- **Existing Buildings**: Equipment, technologies and measures *setting new energy performance levels* above Illinois market standard and minimum Illinois energy codes standards to demonstrate their effectiveness in types of facilities common in Illinois.

- **Community-based wind power generation** *meeting the on-site energy needs of community institutions* such as nature centers, education buildings, and municipal facilities.

- Installation of building-integrated *solar photovoltaic (PV)* or *thermal* systems or other renewable energy systems that earn points toward attainment of a "LEED Silver" or higher "green" building rating.
ISBE Energy Efficiency Grants

- Energy Efficiency Grants are a dollar for dollar state matching grant program providing up to $250,000 for energy efficiency projects in K-12 schools.
- All school districts, charter schools, vocational center or public university laboratory schools are eligible.
- The FY 2010 Capital Bill provided $50 million for Energy Efficiency Grants – the grants are planned to be distributed over the next two fiscal years, with $9 million released this fall.
- The grants can be used for insulation, windows, doors, energy controls, lighting, energy recovery, energy conservation, alternative energy systems and other projects designed to reduce energy consumption.
- Last year’s program is filled. Watch for next round.
- Details at [http://www.isbe.state.il.us/sbss/ee_grants.htm](http://www.isbe.state.il.us/sbss/ee_grants.htm)
- IEN program will now provide matching funds.
Federal Tax Incentives (EPAct 2005)

- A tax deduction of up to $1.80/sf for investment in energy-efficient commercial building property as part of new construction or is authorized.
- The amount of the deduction is the lesser of $1.80/sf or the costs incurred or paid for the energy-efficient property.
- Qualifying systems include 1) interior lighting systems, 2) heating, cooling, ventilation and hot water systems, and 3) building envelope.
- EPAct 2005 incentives for public sector are available to the designer responsible for the energy savings of a public project.
Sources of Incentive Information

- www.dsireusa.org
- www.efficientbuildings.org
- www.energytaxincentives.org/
- www.lightingtaxdeduction.org/
- www.irs.gov
- www.treasury.gov/recovery
- www.mwalliance.org
- www.illinoisenergy.org
- www.illinoiscleanenergy.org
- www.isbe.state.il.us
- www.sedac.org
“America’s future walks through the doors of our schools each day.”

Mary Jean Le Tendre

Web site: www.sedac.org
Contact: info@sedac.org
1-800-214-7954