

Smart Ideas - Bringing Illinois to the Forefront of Energy Efficiency

NAESCO Meeting – June 11, 2008

George Malek

Agenda

- Legislative Review
- Portfolio Summary
- Residential Programs
- Business Solutions Highlights
 - Eligible Measures
 - Incentive Guidelines
 - Application Process

State of Illinois Environmental Policy Summary

Program	Planning Year Targets	Rate Increase Caps	Customer Base	Measurement
Renewables	2% for 2008 4% for 2009 +1% each year until reaches 10% in 2015 +1.5% each year until reaches 25% in 2025	.5% of previous years total bill Increases by .5% each year for three years Thereafter capped at 2.015% of previous years total bill	Eligible Customers (residential and small business under 100kw)	Percentage applied to prior planning years actual energy supplied to eligible customers
Demand Response	.1% each year	.5% of previous years total bill Increases by .5% each year for three years Thereafter capped at 2.015% of previous years total bill	Eligible Customers (residential and small business under 100kw)	Percentage applied to previous years actual peak for eligible customers
Energy Efficiency	.2% for 2008 .4% for 2009 .6% for 2010 .8% for 2011 1% for 2012 1.4% for 2013 1.8% for 2014 2% for 2015	.5% of previous years total bill Increases by .5% each year for three years Thereafter capped at 2.015% of previous years total bill	All Delivery Customers	Percentage applied to expected energy delivered

Note – Rate increase caps assume that rates do not fall due to lower supply prices. If prices fall the cap is the greater of the previous year or the year ended 5/31/2007.

Illinois Legislative Overview

- Legislation requires IL utilities to implement cost-effective energy efficiency measures beginning June, 2008
 - Cost-effective is defined as measures that pass a Total Resource Cost test that measures the NPV of benefits vs. cost over the life of the measure
 - Benefits include avoided capital costs and avoided environmental costs (carbon or other reasonably expected costs)
 - Benefits do not include gas
- Provides for current cost recovery outside of a rate case via a tracker that is reconciled annually
- Initial annual goals are achievable but ramp up rate is aggressive and without precedent – size of ComEd program will be second only to the CA utilities by year four
 - Goals are adjusted downward if projected costs exceed an increasing rate cap
 - Financial penalties for failure to achieve goals are modest, but if utilities do not achieve year three goal, the program management and implementation authority is transferred to the power authority
- ComEd filed its initial three year energy efficiency plan with the ICC on November 15th, 2007
- ICC approved the Plan in February 2008.

ComEd Smart Ideas Portfolio:

ComEd's 3-year portfolio of energy efficiency programs, approved by the Illinois Commerce Commission

- **Reduces energy consumption** by 1.2 million MWh
- **Saves customers** a net \$155 million after program costs
- **Positions Illinois as a national leader**

	2008*	2009*	2010*
% of Energy Delivered	0.2%	0.4%	0.6%
MWh Goal (EE)	188,729	393,691	584,077
MW Goal (DR)	11.7	11.1	10.0
Spending Screen (\$M)	\$39.4	\$81.6	\$126.7
Est Recovery Charge (\$/kWh)			
Residential Class	0.00053	TBD	TBD
Less than 1 MW	0.00035	TBD	TBD
Greater than 1 MW	0.00040	TBD	TBD

*The year is defined as a Program Year (June – May), not a Calendar Year.

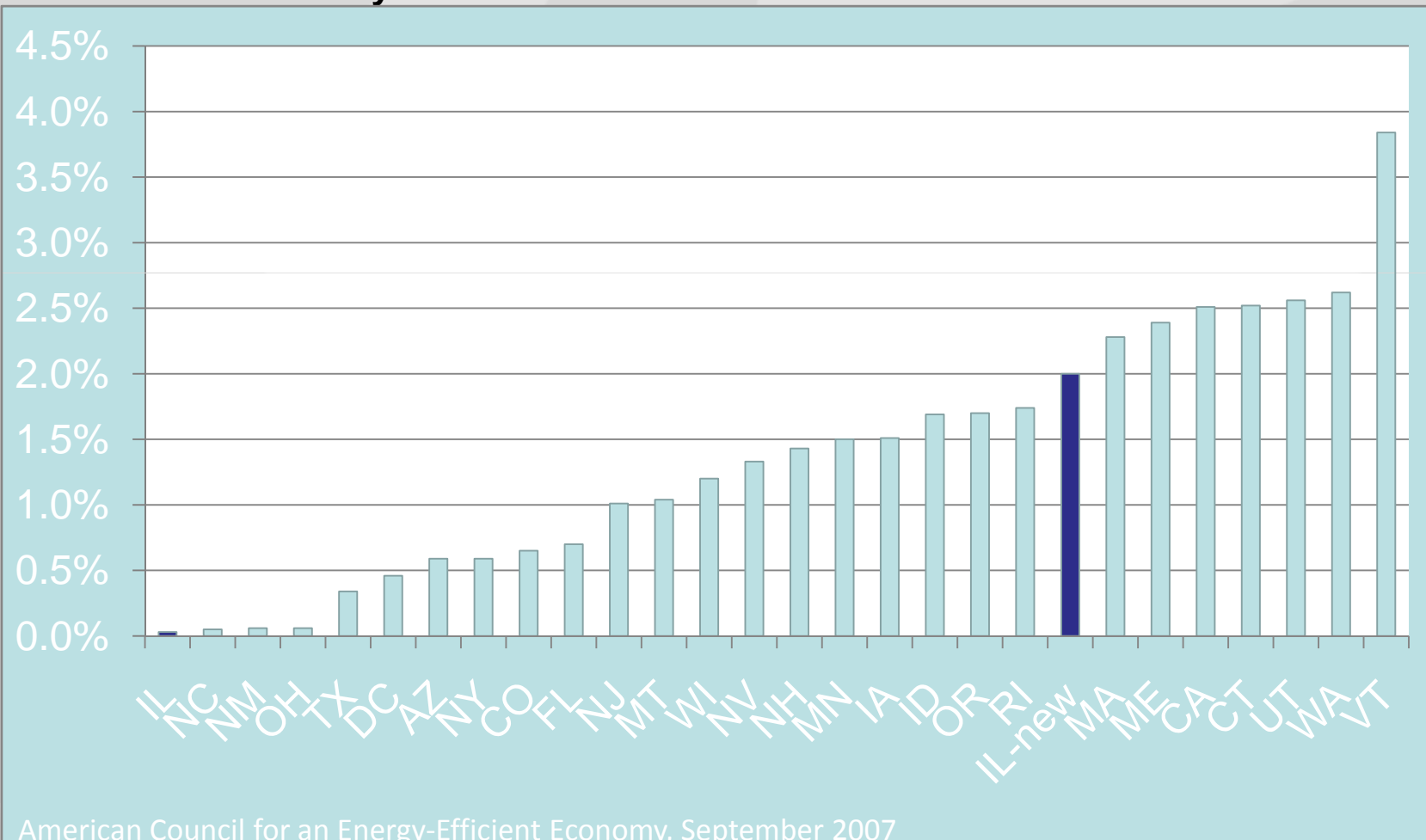
Comparison of Illinois Projected Portfolio Magnitude with Other Large Programs Nationally

State/Utility	Annual Spend [\$Million]	State Ranking	Annual Savings [GWh]	\$/kWh	How Long?	Administered by	Comments, data year
California*	470	1	1697	0.28	Since late 1970's	Utilities	EEGA, 2006 consolidated data
PG&E*	316		752	0.42			EEGA, 2006, spend includes gas
SCE	120		834	0.14			EEGA, 2006
SDGE*	34		111	0.31			EEGA, 2006, spend includes gas
Illinois (Yr 4 - 2011)	258	2	1033	0.25	Year 4	Utilities (75%) and DCEO (25%)	
New York**	173	3	410	0.42	Since 1998	Third-Party (NYSERDA)	NYSERDA report, 2006
Massachusetts	104	4	312	0.33	Since 1984	Utilities	CT Evaluation, 2003 data
Texas	80	5	370	0.22	Since 2002	Utilities	ACEEE, Frontier Assoc., 2003-04 data, gross #'s
Connecticut	76	6	271	0.28	Since mid-1980's	Utilities, w/oversight from Energy Conservation Management Board	2005 C&LM plan

*PG&E and SDGE Spend includes gas conservation programs

**New York program includes distributed generation, significant R&D and some gas programs

Public Benefit Funding for Energy Efficiency as a Percent of Utility Revenues



American Council for an Energy-Efficient Economy, September 2007

Smart Ideas For Your Home

“Residential Programs”

Residential Portfolio:

- **ENERGY STAR® Lighting Program** – Discounts the cost of compact fluorescent lamps (CFLs) and makes them available through retail stores
- **Appliance recycling program** – Offers customers cash incentives to turn-in their working, second refrigerators and freezers, as well as room air conditioners.
- **“All-Electric” Efficiency Upgrade** – Utilizes approved contractors to direct install electricity saving devices in each residence and promotes Business Solutions incentives which are applicable to the building’s common areas. This program is available at no charge to all-electric multi-family properties.
- **Promote existing tools and programs:**
 - **Air Conditioning (A/C) Cycling** (formerly “Nature First”)
 - Allows ComEd to remotely cycle customers’ central air conditioning compressors on and off during peak demand times in exchange for bill credits of up to \$10 per month during summer months.
 - More than 55,000 participants.
 - The ComEd.com interim launch (June 2008) will feature easy access to program information and other educational tools.

Additional programs added:

- **Energy Star Advanced Lighting Package – Provides education, marketing assistance and incentives to home builders to install ENERGY STAR® Advanced Lighting Packages in new homes.**
- **“All-Electric” Efficiency Upgrade for Single Family Homes – Improves the efficiency of all-electric single family homes by providing the customer with an energy analysis and direct install measures such as hot water pipes and insulation and low flow showerheads. Analysis will provide information regarding other energy saving measures that may be eligible for incentives through other ComEd residential programs.**
- **HVAC Diagnostics & Tune-Up – Improves the operating performance (specifically refrigerant charge and proper airflow adjustments) of customers’ central air conditioning units through approved and properly trained HVAC technicians. Incentives will be paid to the contractor who will then have the option of passing the incentive to the customer.**
- **New HVAC w/Quality Installation - Offers incentives for the purchase and proper installation of qualified new central air conditioning systems through approved and properly trained HVAC technicians. Incentive for eligible equipment that exceeds 13 SEER.**

Smart Ideas For Your Business

“Business Solutions”

Breakdown of Business Programs DCEO and ComEd

ComEd Commercial Industrial Programs

Serves
Private Sector

Unique Elements
KEMA Implementation

Common Elements

- Prescriptive Measures
- Custom Measures

- Initial Trade Ally Outreach
- Trade Ally Registration
- Initial Customer Outreach
- Leveraging Account Managers
- Ongoing Training
- Ongoing Outreach

- Web-based Application
- Reporting

DCEO Commercial Industrial Programs

Serves
Public Sector

Unique Elements
DCEO Implementation
Targeted Outreach

Smart Ideas for Your Business Program Highlights

- Focuses on helping businesses use energy wisely
- Targets non-residential commercial and industrial businesses, and institutions
- Legislative approval for increasing goals and funding over the next 3 years
- ComEd has contracted with KEMA and Nexant to support the program implementation

What Does Smart Ideas for Your Business Include?

- Incentives for:
 - Energy efficiency upgrades and equipment
- Array of eligible project categories and opportunities
 - **Prescriptive measures**
 - Cover the most common energy efficiency improvements
 - **Custom projects**
 - Result in energy savings from efficiency improvements
 - Not on the prescriptive list of measures
 - **Retro-Commissioning**
 - Technical assistance that leads to project implementation
- Program staff provide support to help Trade Allies and customers leverage the program

What Measures Are Eligible for an Incentive?

- **Prescriptive Measures**
- Equipment upgrades:
 - Lighting
 - Cooling
 - Refrigeration
 - Motors
- **Custom Measures**
- Incentives apply to:
 - Retrofits
 - Industrial process improvements
 - Efficiency improvements not captured by the prescriptive program
- **Studies**
 - Retro-commissioning



Ineligible Measures

- ❌ Fuel switching
- ❌ Solar / Wind projects
(other incentives available)
- ❌ Residential applications
(other incentives available)
- ❌ Onsite Generation
- ❌ Peak Shifting

What Are the Incentive Guidelines?

Annual Incentive Caps per Non Residential Customer Site *	
All non-residential customer sites	\$100k per program year for ALL incentives (June to May)

Annual Incentive Maximums per Non Residential Customer Site *
Incentive must be $\leq 100\%$ of the Incremental Measure Cost (added cost of increasing the efficiency beyond the standard replacement option)
Incentive must be $\leq 50\%$ of the Total Project Cost

- ComEd dispenses funding on a **first-come, first-served basis**
- Applicants must be ComEd delivery service customers (Customers served by a RES are eligible)
- Incentive levels vary by measure type

* Site is defined as a customer at a single address having contiguous property

What are the Application Process Steps and Timing?

Step 1: Submit a Pre-approval Application

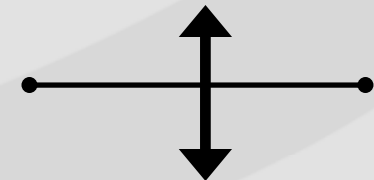
(required for permanent lamp removal and retrofit to new T8/T5 fixtures)

- Click the Pre-approval [check box](#) on the application
- Complete the appropriate [worksheet](#)
- Pre-Approval Applications need customer signatures

Pre-approve
up to **90** days
before project
completion

Step 2: Install Equipment or Perform Project Work

- Maintain [documentation](#)



Step 3: Submit a Final Application

- Click the Final [check box](#) on the application
- Submit all required supporting documentation
- Final applications need customer signature

Submit final
within **60** days
of project
completion

Step 4: Receive Incentive Payment (4 - 6 weeks)

Lighting Information

Equipment Type	Incentive/ Unit
Compact Fluorescent Lamps (Screw-in)	
15W or Less	\$1.50
16W – 26W	\$1.50
26 W or Greater	\$2.00
Hardwired Compact Fluorescent Fixtures	
29W or Less	\$25.00
30W or Greater	\$50.00
Permanent Lamp Removal (Pre-Approval Application Is Required)	
Remove 4-foot Lamp	\$6.00
Remove 8-foot Lamp	\$8.00
Remove 4-foot Lamp with reflector	\$12.00
Remove 8-foot Lamp with reflector	\$16.00
High Performance 4-foot T8	
4-foot Lamp and Ballast	\$7.00
Reduced Wattage 4-foot T8	
4-foot Lamp and Ballast	\$7.00
4-foot Lamp Only	\$1.00
Reduced Wattage 8-foot T8	
8-foot Lamp and Ballast	\$10.00
8-foot Lamp Only	\$1.00

Lighting Information, continued

Equipment Type				Incentive/ Unit
Metal Halide — Pulse Start or Ceramic				
100W or Less				\$20.00
101W – 200W				\$35.00
201W – 350W				\$40.00
Cold Cathode				
Cold Cathode				\$3.00
Exit Signs				
LED, T-1, or Electroluminescent				\$22.00
Controls				Incentive per Watt Controlled
Occupancy Sensors				\$0.10
T8/T5 New Fluorescent Fixtures with Electronic Ballast (i.e., Highbay Fixtures) (Pre-Approval Application Is Required)				Incentive per Watt Reduced
Total Existing Fixture Watts		Total New Fixture Watts		\$0.40

*Incentives are for informational purposes only and are subject to change without notice. Information on final incentive levels will be available via the Incentive Application form on June 10, 2008.

Lighting Specifications (cont.)

Performance Characteristics for Systems					
Mean System Efficiency	≥ 90 Mean Lumens per Watt (MLPW) for Instant Start Ballasts				
	≥ 88 MLPW for Programmed Rapid Start Ballasts				
Performance Characteristics for Lamps					
Color Rendering Index (CRI)	≥ 80				
Minimum Initial Lamp Lumens	≥ 3100 Lumens				
Lamp Life	≥ 24,000 Hours				
Lumen Maintenance or Minimum Mean Lumens	≥ 90% or ≥ 2900 Mean Lumens				
Performance Characteristics for Ballasts					
Ballast Efficacy Factor (BEF) BEF=(BFx100)/Ballast Input Watts	Instant Start Ballast (BEF)				
	Lamps	Low BF ≤ 0.85	Norm 0.85 < BF ≤ 1.0	High BF ≥ 1.01	
	1	> 3.08	> 3.11	NA	
	2	> 1.60	> 1.58	> 1.55	
	3	≥ 1.04	≥ 1.05	≥ 1.04	
	4	≥ 0.79	≥ 0.80	≥ 0.77	
	Programmed Rapid Start Ballast (BEF)				
	1	≥ 2.84	≥ 2.84	NA	
	2	≥ 1.48	≥ 1.47	≥ 1.51	
	3	≥ 0.97	≥ 1.00	≥ 1.00	
	4	≥ 0.76	≥ 0.75	≥ 0.75	
	Ballast Frequency	20 to 33 kHz or ≥ 40 kHz			
	Power Factor	≥ 0.90			
	Total Harmonic Distortion	≤ 20%			

Cooling Measures & Incentives

Equipment Type	Size Category	Qualifying Efficiency	Incentive (per ton)
Unitary and Split Air Conditioning Systems and Air Source Heat Pumps	< 65,000 Btuh	14 SEER	\$15.00
		15 SEER	\$30.00
	≥ 65,000 Btuh and < 240,000 Btuh	11.5 EER	\$15.00
		12 EER	\$30.00
	≥ 240,000 Btuh and < 760,000 Btuh	10.5 EER	\$15.00
		10.8 EER	\$30.00
≥ 760,000 Btuh	9.7 EER	\$15.00	
	10.2 EER	\$30.00	
Water-Cooled Chillers	ALL	Level 1 (see specifications)	\$20.00
		Level 2 (see specifications)	\$40.00
Air-Cooled Chillers	ALL	1.04 kW/ton-IPLV	\$30.00
Room Air Conditioners	ALL	Level 1 (see specifications)	\$30.00
		Level 2 (see specifications)	\$50.00
PTAC/PTHP	ALL	13.08-(0.2556 x Btuh/1000) EER	\$30.00

Variable Speed Drive on HVAC Motors

\$50 per Horsepower

Refrigeration Measures & Incentives

Refrigeration Measures		
Measure	Incentive Unit	Incentive/Unit
Strip Curtains on Walk-Ins	Per Square Foot	\$4.00
Anti-Sweat Heater Control	Per Linear Foot	\$30.00
EC Motor for Walk-In	Per Motor	\$50.00
EC Motor for Reach-In	Per Motor	\$35.00
Evaporative Fan Control	Per Motor	\$60.00
Automatic Door Closers for Walk-In Freezers	Per Door	\$160.00
Beverage Machine Control	Per Unit	\$100.00
ENERGY STAR® Vending Machine	Per Unit	\$100.00
Snack Machine Control	Per Unit	\$30.00

Refrigeration Measures & Incentives (cont.)

High-Efficiency Ice Makers		
Size (lbs / 24 hrs)	Qualifying kWh per 100 lbs	Incentive per Ice Maker
101 – 200	8.5	\$100.00
201 – 300	7.7	\$150.00
301 – 400	6.5	\$200.00
401 – 500	5.5	\$200.00
501 – 1000	5.2	\$300.00
1001 – 1500	5.0	\$400.00
> 1500	4.6	\$400.00

Motor Measures & Incentives

NEMA Premium-Efficiency Motors — Minimum Qualifying Efficiencies							
Horse Power	3600 RPM		1800 RPM		1200 RPM		Incentive per Motor
	Open	Closed	Open	Closed	Open	Closed	
1	77.0%	77.0%	85.5%	85.5%	82.5%	82.5%	\$7.00
1.5	84.0%	84.0%	86.5%	86.5%	86.5%	87.5%	\$9.00
2	85.5%	85.5%	86.5%	86.5%	87.5%	88.5%	\$11.00
3	85.5%	86.5%	89.5%	89.5%	88.5%	89.5%	\$16.00
5	86.5%	88.5%	89.5%	89.5%	89.5%	89.5%	\$20.00
7.5	88.5%	89.5%	91.0%	91.7%	90.2%	91.0%	\$35.00
10	89.5%	90.2%	91.7%	91.7%	91.0%	91.0%	\$45.00
15	90.2%	91.0%	93.0%	92.4%	91.7%	91.7%	\$60.00
20	91.0%	91.0%	93.0%	93.0%	92.4%	91.7%	\$75.00
25	91.7%	91.7%	93.6%	93.6%	93.0%	93.0%	\$80.00
30	91.7%	91.7%	94.1%	93.6%	93.6%	93.0%	\$90.00
40	92.4%	92.4%	94.1%	94.1%	94.1%	94.1%	\$100.00
50	93.0%	93.0%	94.5%	94.5%	94.1%	94.1%	\$125.00
60	93.6%	93.6%	95.0%	95.0%	94.5%	94.5%	\$150.00
75	93.6%	93.6%	95.0%	95.4%	94.5%	94.5%	\$175.00
100	93.6%	94.1%	95.4%	95.4%	95.0%	95.0%	\$250.00
125	94.1%	95.0%	95.4%	95.4%	95.0%	95.0%	\$275.00
150	94.1%	95.0%	95.8%	95.8%	95.4%	95.8%	\$325.00
200	95.0%	95.4%	95.8%	96.2%	95.4%	95.8%	\$450.00

Custom Measures and Incentives

Examples of custom measures:

- Lighting (not a part of prescriptive list)
 - Improved lighting layouts / design
- Economizers for air conditioners
- Variable Frequency Drives for non-HVAC applications
- Refrigeration measures (not a part of prescriptive list)
- Industrial process improvements
- Controls
 - Energy Management Systems
 - Demand Control Ventilation
- Pre-approval is required with a customer signature and provides customers and ComEd with an opportunity to assess measure qualification before the project is done

Custom Measures and Incentives, cont.

	Less than 5-Year Life or Energy Management System Programming	Greater than or equal to 5-Year Life
Incentive	\$0.03/kWh	\$0.07/kWh
Minimum Payback*	None	One year
Maximum Payback Period*	< 5 years	< 7 years

$$*Payback = \frac{\text{Incremental measure cost}}{\text{annual bill savings}}$$

- Projects may not be accepted if savings cannot be measured and verified – monitoring may be required
- Projects must meet ComEd’s cost effectiveness requirements
- Incentives are based on first year kWh savings
- Prescriptive measures do not qualify as custom measures

Work with ComEd

- Program answers available by calling (510) 285-4120
- Fax: 1-630-396-9036
- comedsmartideas@kema.com
- ComEd Account Manager

- KEMA – Implementation Contractor
 - Provide application support
 - Provide Account Manager information (if applicable)
 - Provide customer billing data upon authorization

- www.ComEd.com (Available June 10)
 - Program information
 - Application forms
 - Policy and Procedures Manual

smart  ideas

Thank you!