Invest in Your Business Potential

Climate Wise Fall Fair
September 9, 2010

Agenda

- **Rebate Updates**
- **Program Highlights**
- **What's Next**

Rebate Updates

- Green Information Technology –
  John Phelan, Utilities Energy Services Manager
- Building Tune-up –
  Kelley Gonzales, Utilities Energy Services
- Lighting –
  Adam Perry, Platte River Power Authority, Energy Services

Green IT – Systems Thinking

- Applies to all types of IT systems
  - Single PC to co-location data center
- Hardware
  - IT equipment efficiency (chips, power supplies, UPS systems, etc)
- Software / management
  - Server virtualization
  - PC power management
- Design / architecture
  - Thin clients, network
- Efficient cooling
  - Temperature and humidity requirements
  - Air flow management
  - Free cooling

Green IT - Rebates

- Server Virtualization
  - $250 per server removed
- ENERGY STAR® PC's
  - $5 per computer
- Cooling equipment, UPS, airflow management
  - Custom rebate application

Green IT – Take Away

- Efficient power supplies have large direct and indirect savings
- New servers are orders of magnitude more efficient than older equipment
- Electrical bill will exceed the cost of IT equipment over its useful life
- 20-40% savings typical, better than 50% with aggressive strategies
- Paybacks are short – 1 to 3 years are common

Green IT – Take Away

Start NOW

- Engage your IT manager
- Purchase ENERGY STAR desktops and servers
- Implement network based power management
- Begin or accelerate adoption of virtualization technology – consolidate server and storage equipment
- Institute airflow management best practices; raise supply air temperature; widen humidity set points
- Apply for rebates

Building Tune-Up

- **Tune up your building for higher efficiency with retro-commissioning**

- **Utilities/Platte River will pay 100% of the cost to identify measures that can save energy and improve comfort, operations, and efficiency that pay for themselves in < 2 years.**

Building Tune-Up Eligibility

- **Utilities business customer**
- **Committed to spending $4,000 or more, depending on building size, to implement identified measures with a total simple payback of two years**
- **No scheduled major renovations or capital investments**

(Must meet all qualifications)

Facility Requirements

- **50,000 sq. ft. and at least two years old**
- **Functioning central control energy management system**
- **Reflects unique circumstance, e.g. unusually high energy use compared to similar buildings of like use**

(Must meet minimum of two)

More Details

Applicants must

- **Be pre-approved**
- **Use approved list of retro-commissioning service providers (RSP)**
- **Get three bids from approved RSPs**
- **Apply for gas rebates/RCx from Xcel under separate application (if Xcel gas customers)**

Total estimated time period to complete a retro-commissioning project is four to nine months

To Get Started

- **Applications accepted now for openings this year. Applications this winter for projects starting in 2011**
- **Contact Utilities at 970-221-6700**
- **Apply on line at**

fcgov.com/FortCollinsConserves

Lighting

- New Federal Regulations
  - 2010, July – magnetic ballast for T12s gone
    - Replacement option: Electro-magnetic ballast or electronic T8
  - 2012, July – Most T12 and least efficient T8 lamps will be no longer be available

Lighting

- 2012 to 2014 – phase in 33% more efficient incandescent bulb
  - 100 (2012),75 (2013), 60 W (2014) A19 bulbs, some flood lamps
  - Replacement option: CFL or LED (75% more efficient), new incandescent (anticipated to be halogen infrared, 33% more efficient)

Lighting Rebate Update

- LIGHTEN**UP** – **Existing Buildings**
  - Retrofits/replacement of fixtures and redesigns in existing buildings; both interior and exterior
  - Rebate based on a $0.05 to $0.60 per Watt reduction calculated by lighting rebate applications
  - **Changes effective January 1, 2011! Must be approved prior.**

- **Electric Efficiency Program for New Construction**
  - Based designing lighting system lower that required by ASHRAE/IESNA 90.1 – 2004 Watts per square foot for building type
  - Rebate based on $0.50 per Watt reduction from code.

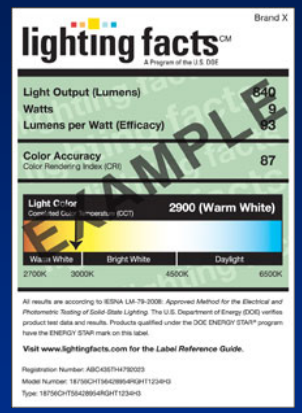
Lighting Rebate Update

Existing	Proposed	Annual Cost Savings*	Rebate /fixture (today)	Rebate /fixture (2011)	Est. SPB (years)*
4 lamp T12 w/ magnetic ballast	2 lamp T8 (32W) w/ high efficiency electronic (new reflector option)	$16	**$41**	**$32**	**1 to 2**
	4 lamp 28W T8 w/ low ballast factor HE electronic	$11	**$27**	**$21**	**2 to 3**
2 lamp T12 w/ magnetic ballast	2 lamp 28W T8 w/ low ballast factor HE electronic	$5	**$17**	**$14**	**3 to 4**
65W Incandescent	Screw-in CFL – 14W	$8	**$2.50**	**$2.50**	**0.5**
1 – 400W Metal halide	6F32T8 w/ 2 HBF or 4LT5HO	$48	**$118**	**$95**	**2 to 3**

*After rebate, assumes average rate of $0.07/kWh and 2,500 annual hours

Lighting Rebate Update

Proposed Systems	Platte River $/fixture	Est. SPB* (years)
LED Replacement Bulbs Including dimming, MR16, etc	$10 - 20	3 to 4
LED or CFL Desk Lamps	$15	1 to 2
LED Refrigerator Case Lighting	$40 – 60 per lamp	1 to 4
LED or Induction Parking Lot	$50 - 200	1 to 3
LED Company Signs (versus neon)**	varies	0 to 3
4 lamp T8 w/ std electronic ballast to 2 lamp 32W T8 w/ HE electronic	$33	2 to 4
Automatic Controls Occupancy, daylight, photo sensors	$7 to 25	2 to 4



*After rebate, assumes average rate of $0.07/kWh and 2,500 annual hours, does not include potential maintenance savings

** 0 year SPB based on upgrade cost only when neon sign is at end of life.

Program Highlights

- Office Equipment
- Food Service
- Grocery
- Custom Efficiency

http://www.fcgov.com/conservation/biz-eep.php

Office Equipment

Electric Efficiency Program Application (v1.2)
Existing Buildings & Facilities
Page 7: High Efficiency Office Equipment & Controls

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Approval Code: 0

Existing Equipment	High Efficiency Equipment	Rebate per Unit	# Unit	Total Potential Rebate	Total Annual Electric Cost Savings
60-100 Watt Incandescent/Halogen Desk Lamp	New Compact Fluorescent Desk Lamp (32 Watt Max)	$15			$12
60-100 Watt Incandescent/Halogen Desk Lamp	New ENERGY STAR LED Desk Lamp	$15			$12
Linear Fluorescent Undercabinet Fixture (with T12/T8 lamps)	New ENERGY STAR LED Undercabinet Fixture	$5			$2
150-300 Watt Incandescent/Halogen Floor Lamp	New Fluorescent Torchiere - 55 Watt Max	$20			$0
40-100 Watt Incandescent located in plug-in fixture	Screw in ENERGY STAR Compact Fluoresent Lamp (CFL)	$1			$5
Computers & Servers	**Proposed New Processing Components**				
Server Replacement (documents required listed below)	Server Consolidation by Virtulalization	$250			$262
New or Existing computer replacement	New ENERGY STAR v4.0 desktop or side computer	$5			$3
Existing Equipment	**Proposed New Controls**				
Exterior Lighting > 75 W no automatic control	Exterior photocell	$30			$17
Office Equipment	Smart Strip Energy Efficient Surge Protector*	$7			$8
Office Equipment	Plug Strip w/ Motion Sensor	$15			$9
Interior Lights or other < 100 W	Occupancy Sensor or Timer Switch	$12			$8
Interior Lights or other > 100 W	Occupancy Sensor or Timer Switch	$17			$9
Bathroom Lights or other	Motion Sensor Nightlight	$15			$8
Vending Machine	Occupancy Control	$90			$43
Total potential incentive on page 10 must be a minimum of $50 to qualify. Rebate cannot exceed project cost.		Totals	0	**$0**	

* Check manufacturer specifications to verify that surge protector is appropriate for equipment and appliances that will be plugged in and will protect at lower power surges.
** Annual cost and kWh savings are based on a typical office application and average energy rate of $0.05 per kWh. Results may vary for your business.

Server Virtulization requirements: Must submit virtualization software agreement and provide proof the consolidated servers have been removed and fully decommissioned.

Food Service

Electric Efficiency Program Application (v1.2)

Existing Buildings & Facilities

Page 5: High Efficiency Food Service Equipment

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Approval Code: 0

New High Efficiency Equipment*	Rebate per Unit	# Units	Total Potential incentive	Minimum Required Citeria (see below for qualifying models)	Average Annual Electric Cost Savings**
High Efficiency Ice Machine (kW h/100 lbs of ice)	$300			CEE Tier 3	$150
High Efficiency Ice Machine (kW h/100 lbs of ice)	$200			ENERGY STAR or CEE Tier 2	$100
Insulated Hot Food Holding Cabinets (min 7 cu ft)	$300			ENERGY STAR	$334
Reach-In Refrigerators & Freezers (< 19 ft3) (glass or solid door)	$50			ENERGY STAR or CEE Tier 2	$32
Reach-In Refrigerators & Freezers (19 - 30 ft3) (glass or solid door)	$75			ENERGY STAR or CEE Tier 2	$34
Reach-In Refrigerators & Freezers (31 - 60 ft3) (glass or solid door)	$100			ENERGY STAR or CEE Tier 2	$43
Reach-In Refrigerators & Freezers (61 - 90 ft3) (glass or solid door)	$125			ENERGY STAR or CEE Tier 2	$65
Electric Steamers	$250			ENERGY STAR	$185
Electric Fryers	$75			ENERGY STAR	$43
Electric Griddles	$150			ENERGY STAR (> 70% HL Eff)	$82
Combination Ovens - Electric	$1,000			ENERGY STAR (> 70% HL Eff)	$600
Convection Ovens - Electric	$225			ENERGY STAR (> 70% HL Eff)	$115
Vent Hood Controls					
Vent Hood Controls with VFD fans & sensors; per hp (enter total exhaust fan horsepower)	$200			Recommend using qualified installer	$114
Are there MUA fans controlled? (select yes or no)	No				
Total potential incentive on page 10 must be a minimum of $50 to qualify. Rebate cannot exceed project cost.	Total	0	$0		

Minimum Required Citeria Reference	Website Links	Description
CEE Tier 2 & 3 Qualifying Model Lists www.cee1.org	CEE1 Com. Kitchen Equip. Homepage	Visit the Consortium for Energy Efficiency (CEE) website for a list of all CEE qualifying kitchen equipment; including Tiers 2 & 3.
ENERGY STAR Qualifying Model Lists	ENERGY STAR Commercial Food Service and Other Equipment	ENERGY STAR website homepage to find ENERGY STAR qualifying equipment models
ASTM (American Society of Testing Materials) Heavy Load Efficiency Ratings	Performance Testing for Food Service Appliances	Food Service Tech. Center (FSTC) operated by Fisher-Nickel Inc., performs commercial kitchen appliance performance & efficiency testing;

Grocery

Existing Buildings & Facilities

Approval Code: 0

Page 6: High Efficiency Grocery Equipment

High Efficiency Equipment Upgrades	Rebate per Unit	# Units	Unit of measure	Potential Incentive	Total Annual Electric Cost Savings*
New or Existing Reach-in or Open Display Cases and Existing Walk-ins Only (see below for new walk-ins or refrigerated warehouse rebates)					
Zero Energy Glass Doors w/ No ASH <1a>	$125		door		$81
Low Energy Glass Doors <1b>	$75		door		$46
Anti-Sweat Heater Controls <2>	$75		door		$46
Case Lighting Retrofit T12/mag - T8/elec <3>	$20		lamp		$19
LED Case Lighting replacing T8/elec <4a>	$40		lamp		$35
LED Case Lighting replacing T-10/12/mag <4a>	$60		lamp		$62
EC Motors in Display Cases <5> (electronically commutated motor)	$30		motor		$17
EC Motor in Walk-in Cooler/Freezer <6>	$60		motor		$35
EC Motor compressor head cooling fans <7>	$50		motor		$43
Night Covers – Vertical or Horizontal	$10		ln ft case		$15
Hardwired T8 Fixture in Walk-in cooler/freezer	$15		lamp		$36
Screw-in CFL for walk-in cooler/freezer	$1		lamp		$37
Smart Defrost Control Walk-in Freezer <8> (greater than or equal to 1.5 horsepower)	$150		controller		$79
Evap Fan Controls Walk-ins <9> (controls shaded pole motor only)	$50		fan motor		$25
Outside Air Economizers for Walk-ins <10> (walk-in must be ? 1,000 cu. ft.)	$1,250		Unit		$657
New Walk-in or Refrigerated Warehouse (see above for existing walk-in or warehouse retrofits)					
Zero Energy Doors w/ No ASH <1>	$50		door		$36
LED Case Lighting <4b>	$40		lamp		$35
Smart Defrost Control Walk-in Freezer <8>	$150		controller		$79
Evap Fan Controls Walk-ins <9>	$30		fan motor		$17
Outside Air Economizers for Walk-ins <10> (walk-in must be ? 1,000 cu. ft.)	$1,250		Unit		$657
Total potential incentive on page 10 must be a minimum of $50 to qualify. Rebate cannot exceed project cost.	Total	0		**$0**	

Custom

- Energy saving upgrades that are not already listed on the application
- Information needed
  - –Manufacturer data on equipment
  - –Energy savings (manufacturer/suppler data)
  - –Project cost
  - –Project schedule

What's Next

- Rebate Programs In Development
  - Small Building Tune-Up (< 50,000 SF)
    - Pilot of 5 – 6 facilities this fall
    - 95% of Tune – up paid by Utilities/Platte River
  - Multi-family Performance Based
    - Rebate based on total savings of electric usage
    - Pilot of 2 – 3 facilities early next year

What's Next

- Business Environmental Program Series
  - Every other Tuesday at 9-noon starting September 14
  - November 16: Series Finale

    Rx for an efficient business

- Energy and Water Expo
  - Noon to 4pm

Thank You

Questions?