



## Energy Efficiency Programs and Incentives

Electric League  
January 20, 2011  
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[www.seattle.gov/light/conserves](http://www.seattle.gov/light/conserves)

**Your Energy Future**  
Conservation is the new power plant

# Service Territory and Fast Facts

## City of Seattle plus seven suburban cities

Burien, Lake Forest Park, Normandy Park, Renton, SeaTac, Seattle, Shoreline, Tukwila and some parts of unincorporated King County

- 400,000 Commercial, industrial and residential accounts
- Over 800,000 people served
- \$1 billion budget
- Generate 6,300,000,000 kWh/year
- Retail load 9,708,690,000 kWh/year



# Seattle City Light: A Commitment to Conservation

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## A Commitment to Conservation Since 1977

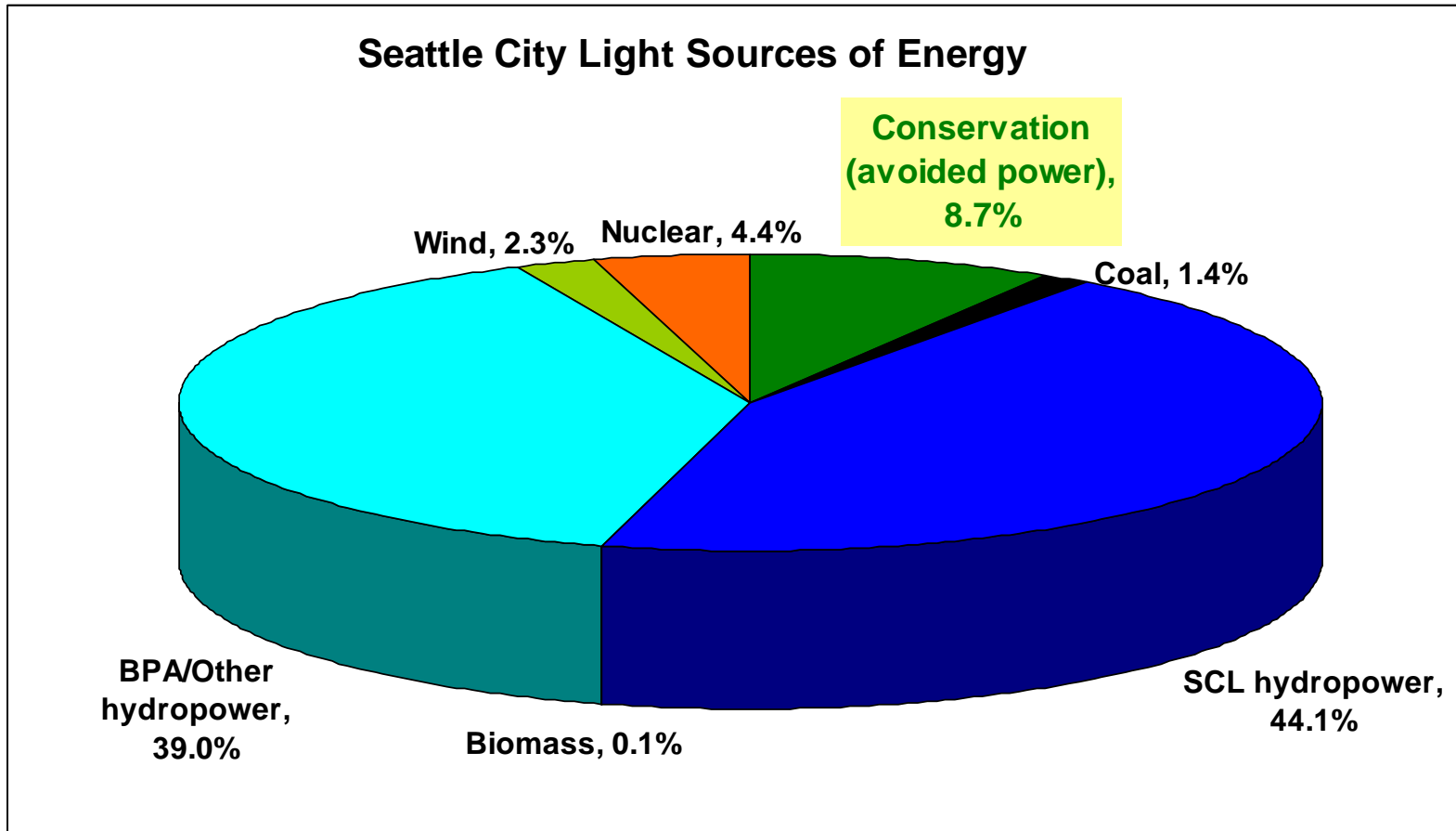
**Saving customers money** Since 1977, SCL's conservation programs have provided our customers with more than \$680 million in avoided energy costs

**Saving energy** More than 1,000,000,000 kWh conserved

**Carbon neutral since 2005** The first utility in the nation to achieve net-zero greenhouse gas emissions

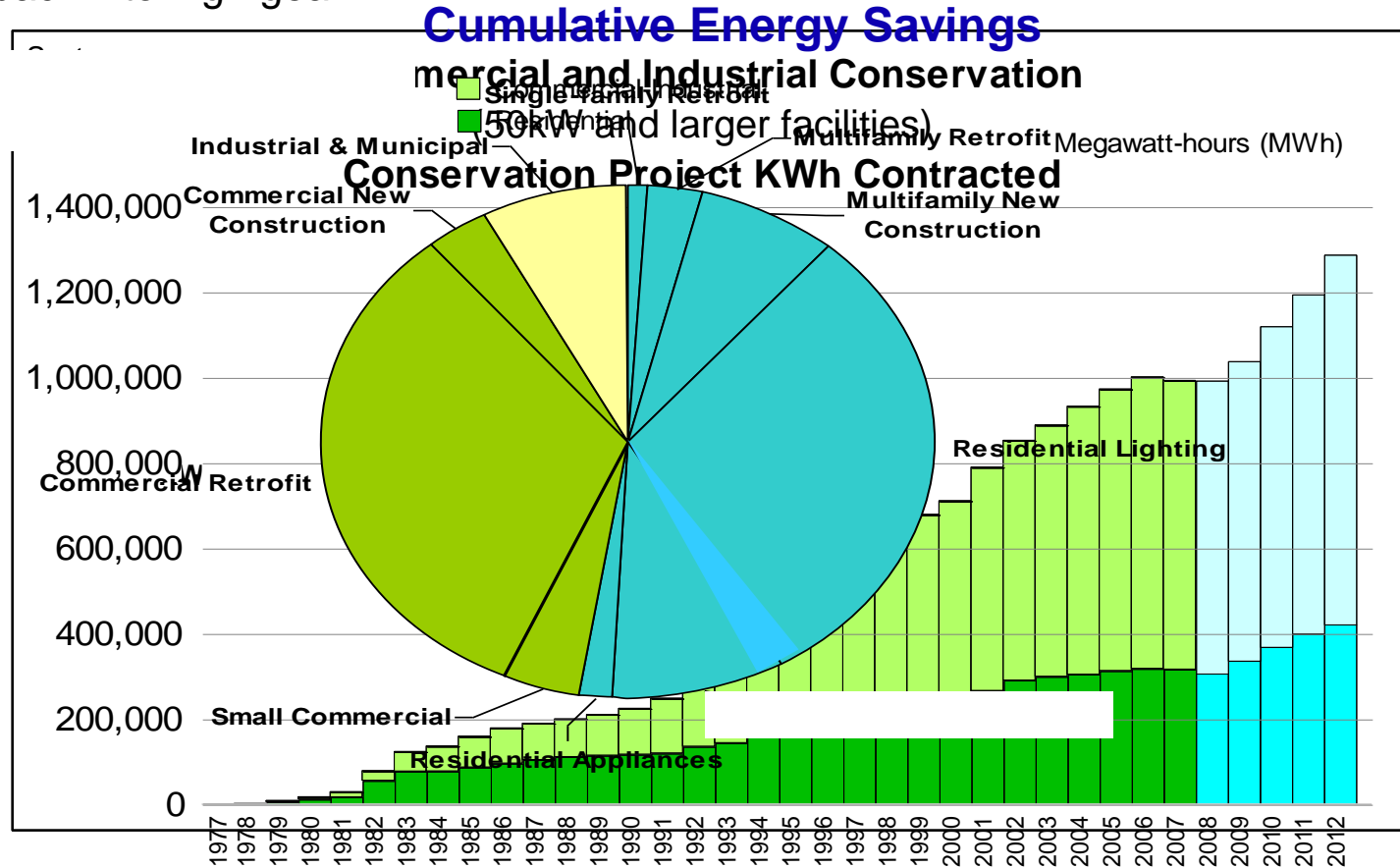


# Conservation – SCL’s energy source of choice



# 2010 Success

- 134,000,000 kWh contracted savings
- Kicking back into high gear



# Business Conservation

## Financial Assistance and Rebates

- Incentives for installing energy-efficient equipment
- Size of business will determine which program will serve customer
  - Demand over 50 kW (medium+ rate classes): *Commercial and Industrial*
    - Minimum incentive \$500
  - Demand under 50kW (small rate classes): *Smart Business*



# Technical Assistance

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## Facility Assessments

- Thorough inspection of facility
- Recommendations for energy conservation and O&M measures
- Identify measures that qualify for financial incentives

## Retro-Commissioning

- Funding for professional commissioning

## Energy Analysis Assistance

- Funding for in-depth energy analysis done by a consultant or a design team
- Ranked recommendations by cost/benefit analysis



# Technical Assistance – Lighting Design Lab

## Lighting Design Lab

- Consultation
- Training
- Mock-ups
- Library



# Financial Incentives: Commercial and Industrial

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All incentives based on first year kWh savings

## Cost caps

- 70% of project cost
- 6 month payback

## Standard Incentives

Funding for installation of standard energy efficient equipment

- Lighting, exit signs, occupancy sensors
- HVAC – chillers, heat pumps, air conditioners
- Variable Frequency Drives
- Motors
- Elevators
- Air compressors
- Restaurant equipment: Commercial ovens, hot food holding cabinets, dishwashers and ice machines



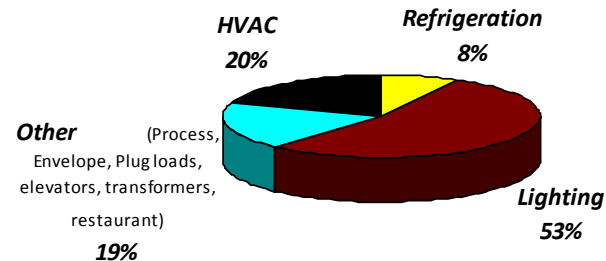
# Financial Incentives: Commercial and Industrial

## Custom Incentives

Funding based on kWh/yr savings

- HVAC controls
- Retro-commissioning
- Heat recovery
- Compressors
- Data centers
- Demand controlled ventilation
- Fume hoods
- Refrigeration
- Cooling towers
- Insulation and windows
- Transformers

## Commercial and Industrial kWh Savings Breakdown



# Financial Incentives – New Construction and Major Remodels

## Financial Incentives for Efficiency Above Seattle Energy Code

- Lighting
- HVAC Equipment
- HVAC Systems (requires building energy model)
- Motors



# Lighting Retrofits – Hard Wired Fixtures

## Incentives value permanence

- When bulbs are replaced, the fixtures will still provide the savings for the life of the fixture

Lighting Incentives	\$/kWh	Notes
Exit signs	15¢	
New Fixtures or Lighting Retrofits	20¢	Includes T-8, T-5, HID's, CFL's, Induction
LED Fixtures *	22¢	Must be hard-wired, 20¢ + 10% bonus = 22¢



# Screw-In / Other Lighting Incentives

## Reduced incentives reflect uncertainty of savings

- Will bulbs stay in for the entire potential life?
- Will bulbs be replaced with the same technology?

Lighting Incentives	\$/kWh	Notes
CFLs - compact fluorescents	3¢	
Ceramic Metal Halide	6¢	
T8 and T5 Lamp Replacements	6¢	New lamps must be $\leq$ 28W for T8, $\leq$ 49W for T5
Induction and Cold Cathode	10¢	
LED *	16.5¢	CFL Screw in Retrofits are 15¢ + 10% bonus = 16.5¢
Fixture Removals	10¢	Permanently remove existing fixtures
T8 and T5 Lamp Removals	2¢	Reduce number of lamps per fixture in existing fixtures



# Lighting Controls

## Flat rebates for ceiling and wall sensors

- \$30 for wall – mounted in a switchbox
- \$90 for ceiling – mounted on ceiling or high on a wall
- Other controls incentives are in-line with hard wired incentives and calculated kWh savings



Wall



Ceiling

Lighting Controls:	Incentive	Notes
Occupancy lighting sensors (wall)	\$30/sensor	fixed funding amount per sensor
Occupancy lighting sensors (ceiling)	\$90/sensor	fixed funding amount per sensor
Occupancy sensor mounted on fixture	20¢	
Daylighting Controls	20¢	
Central Lighting Controls	20¢	
Card Key Hotel Room Control	22¢	20¢ + 10% bonus = 22¢

# Medium and Large Commercial Non-Lighting Incentives

Incentives for all types of energy saving technologies

Code is the baseline for savings calculations

Non-lighting Conservation Incentives	\$/kWh	
Air Conditioners, Economizers, HVAC Controls	20¢	
HVAC Equipment, efficient transformers, air compressors, process loads	23¢ - 29¢	
Restaurant and refrigeration equipment	Varies	



Variable Frequency Drives: 23¢



Chillers and cooling towers: 23¢  
29¢ for water cooled centrifugal chillers

# \$mart Business for Small Business

## Small commercial facilities (under 50kW) that are not part of a chain, campus or institution

- Lighting Rebates average \$25 to \$65 per fixture

### 2010 results

- program served 576 businesses
- Average project cost was \$3,783
- Average project kWh savings was 14,390

### New offerings

- Air compressors
- HVAC
- Ductless heat pumps
- Residential style appliances



# Residential Programs

## Built Smart Multifamily new construction

- Efficient common area lighting and controls – 0.65 Watts/ft<sup>2</sup> or less
- Energy Star in-unit lighting & energy efficient fans - \$25/fixture
- Appliances, Heat Pumps, Efficient Exterior Lighting
- New code reflects significant market transformation

## Common Area Lighting

- Pays up to 85% of costs

## Twist and Save

- CFL retail buy-down

## Other

- Ductless heat pumps
- Heat Pump Water Heaters
- Refrigerators
- Clothes washers



# What's Hot!

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- Bi-Level Fixtures
- Low wattage T-8 bulb replacement
- LEDs...everywhere
- Variable Frequency Drives/CO sensors
  - Parking garage fans, etc.
- ECM motors
- Existing chiller compressor replacement
- Grocery store efficiency measures
- Our new Lighting Spreadsheet!



# What's Next?

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## Further enhancing lighting savings

- Additional controls
- Addressable/dimmable occupant lighting control
- Proper light levels
- Lighting design pilot projects
- ...and looking beyond lighting

## Capturing more short-term measures (O&M and behavior impacts)

- Resource Conservation Management
- Enhanced Retrocommissioning program

## Occupancy sensors for both HVAC and lighting

## Deep building retrofits

## Continual code revisions

## Contact us to get started

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- *Phone:* **(206) 684-3800** Seattle City Light **Energy Advisor desk**
- *Email:* **[SCLenergyadvisor@seattle.gov](mailto:SCLenergyadvisor@seattle.gov)**
- *Web:* **[www.seattle.gov/light/conserve](http://www.seattle.gov/light/conserve)**



**Your Energy Future**

Conservation is the new power plant