

# **SEATTLE CITY LIGHT**

## **Conservation Resources Division**

### **2008 – 2012 Action Plan**

# **Building a World Class Conservation Power Plant**

**(one customer at a time)**



**Advisory Committee Briefing**  
**June 10, 2008**



# What is a Conservation Power Plant?

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- Has Power Plant attributes
  - Contributes energy resource solutions at “least cost”
  - Measured and verifiable results
- But is flexible and scaleable
- And has significant “customer benefits”
  - Lower energy bills
  - Clean resource
  - Improved utility customer satisfaction

# Seattle City Light

## *Energy Efficiency Action Plan 2008-2012*

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### Presentation Overview

- History
- Key Drivers
  - Regional and SCL Resource Plans
  - Climate Change
- The National Leadership Path
- Program Offerings
- Resources and Metrics
- Alternatives Studied
- Questions/Guidance

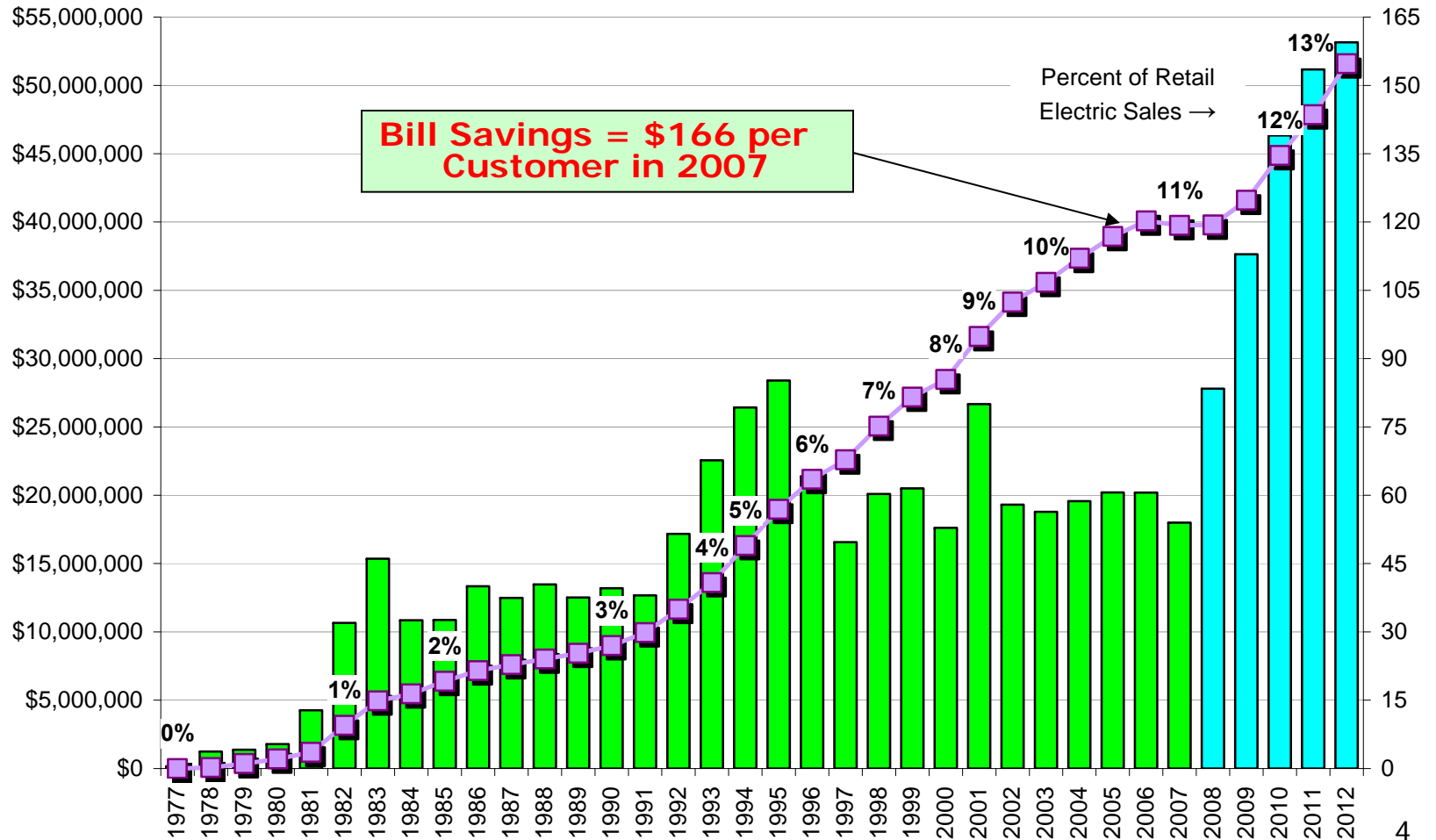
***A World Class Commitment to Conservation Resources***

# SCL Energy Conservation History & Plan

## Expenditures & Load Reduction

Annual Total Conservation Expenditures (actual dollars)

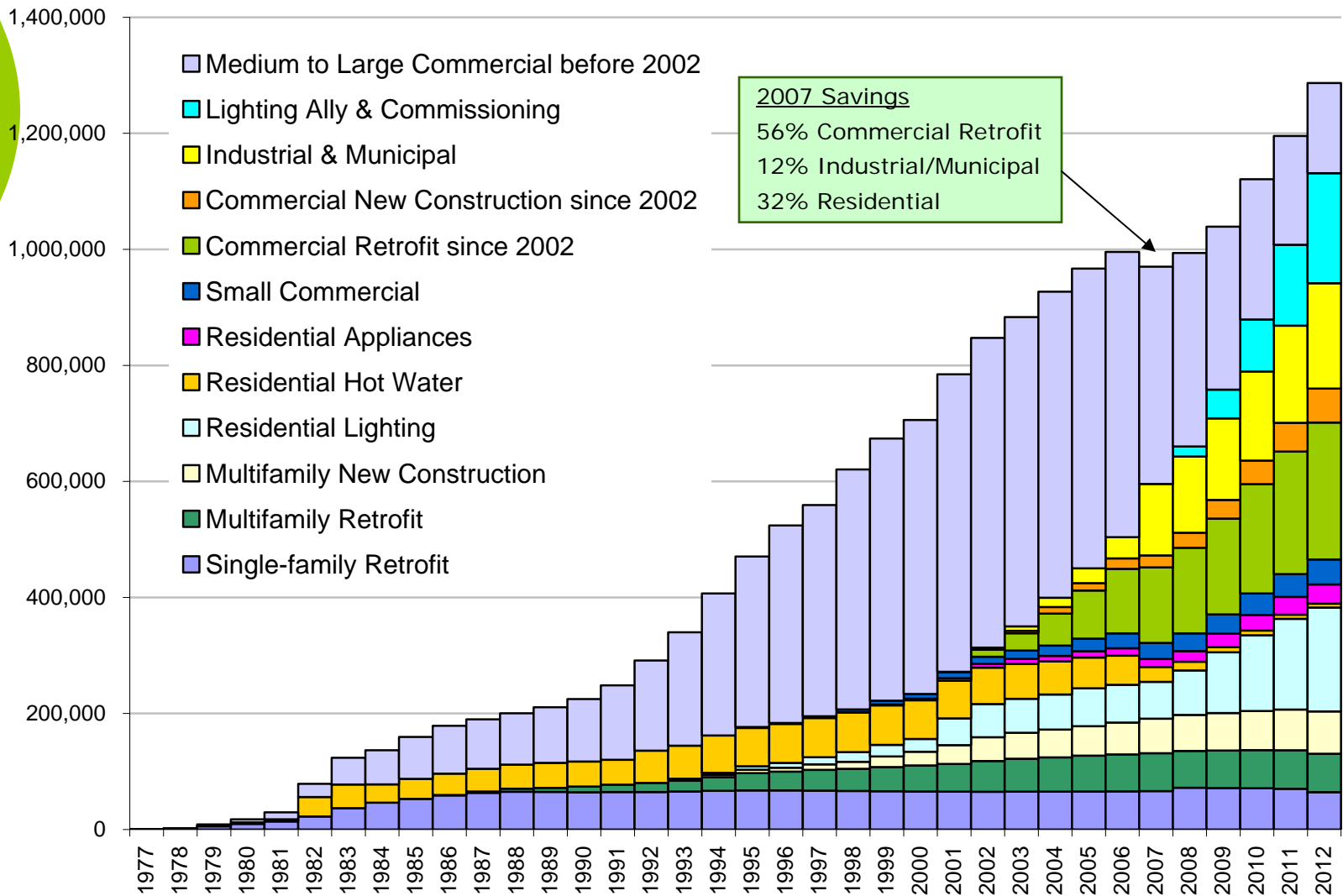
Average Load Reduction in Year (aMW)



# SCL Energy Conservation History & Plan

## 1977-2012 Cumulative Energy Savings

MWh Savings in Each Year

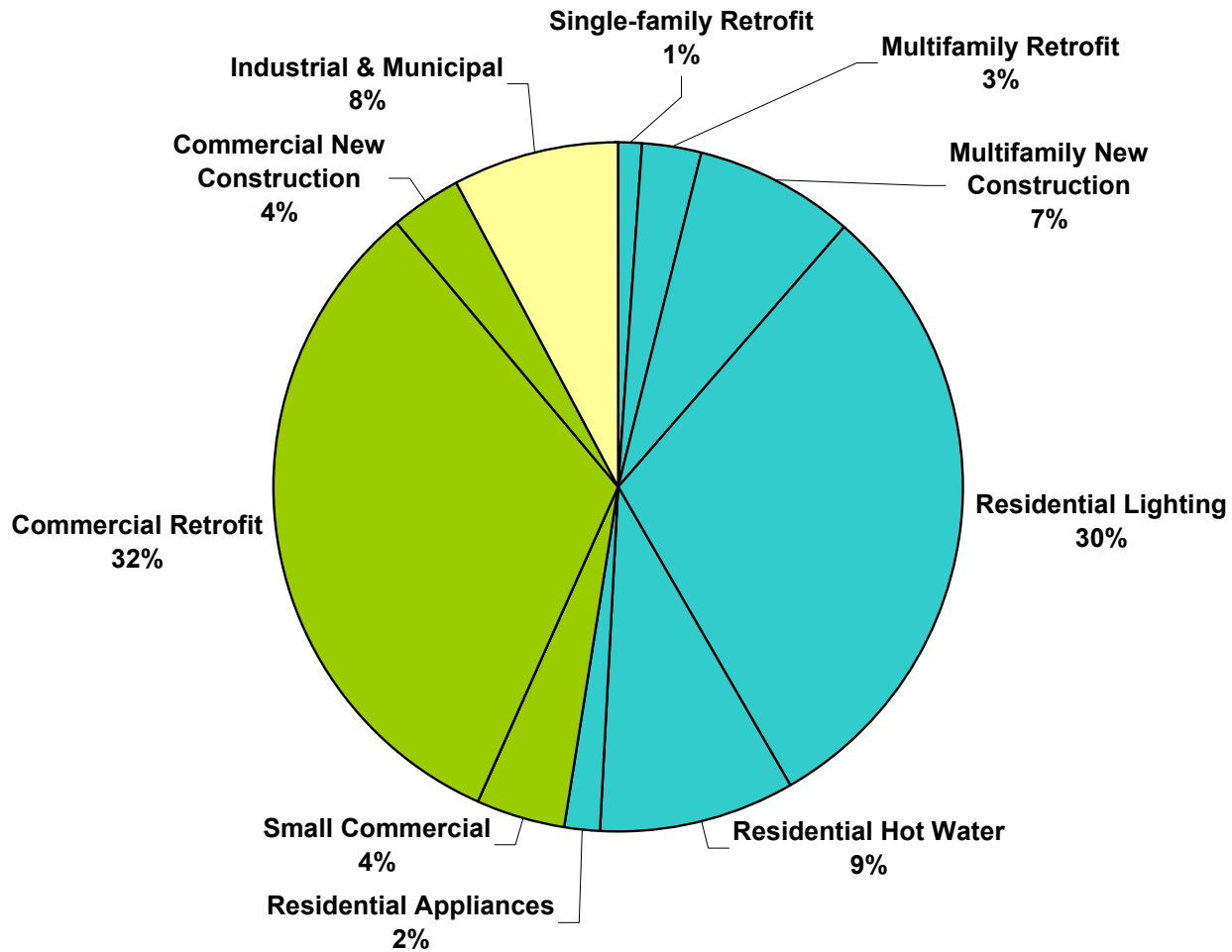


# SCL Energy Conservation History & Plan

## 2007 New Energy Savings

Seattle City Light

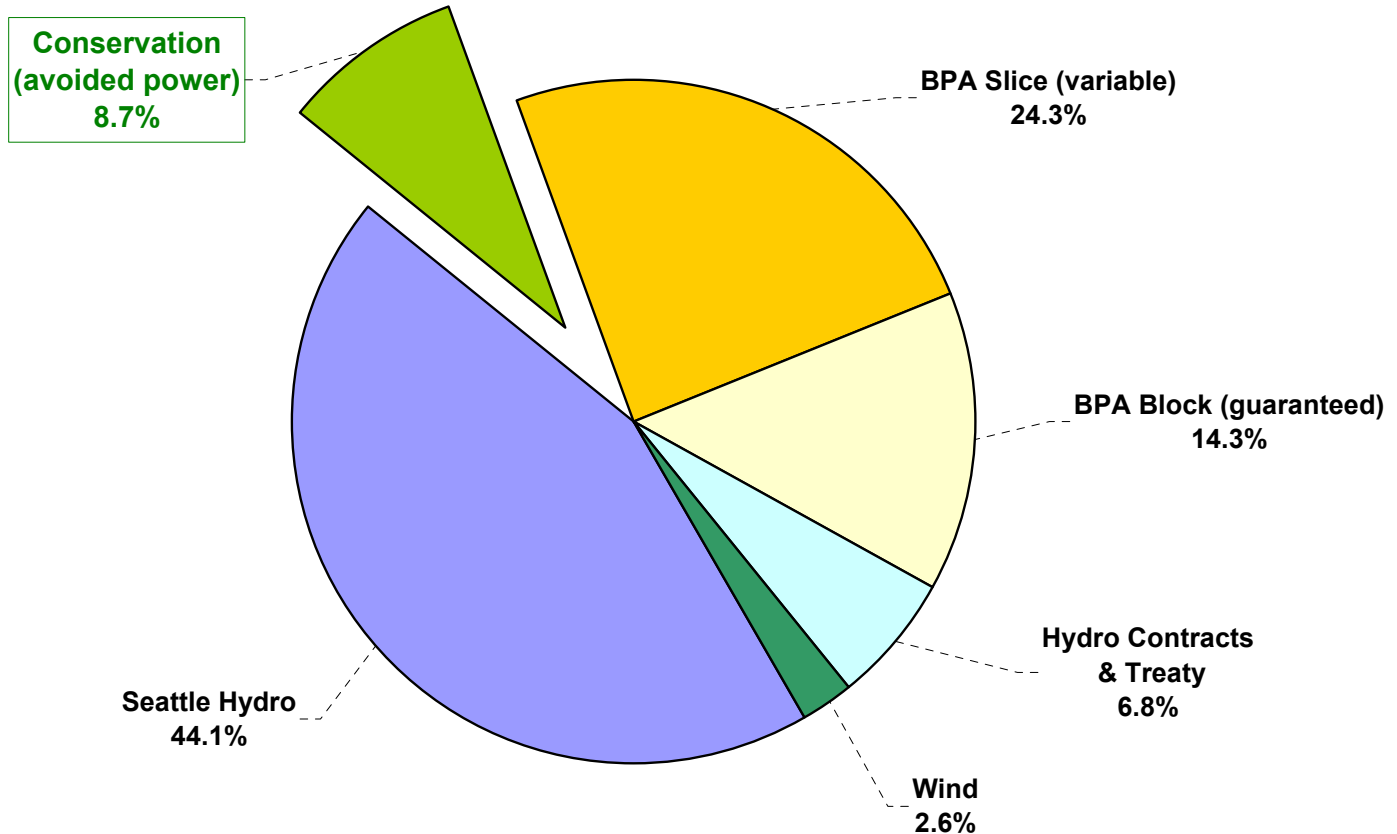
2007 Conservation Energy Savings (new first year MWh)



# SCL Energy Conservation History & Plan

## 2007 Actual & Avoided Power

Seattle City Light  
2007 Actual and Avoided Power



# Energy Efficiency Action Plan 2008-2012

## *Local, Regional and National Drivers*

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Seattle City Light  
Mission, Vision & Values  
Integrated Resources Plan  
Strategic Plan

Mayor's Climate Action Plan, Climate Action Now,  
and 20% Energy Reduction Goal

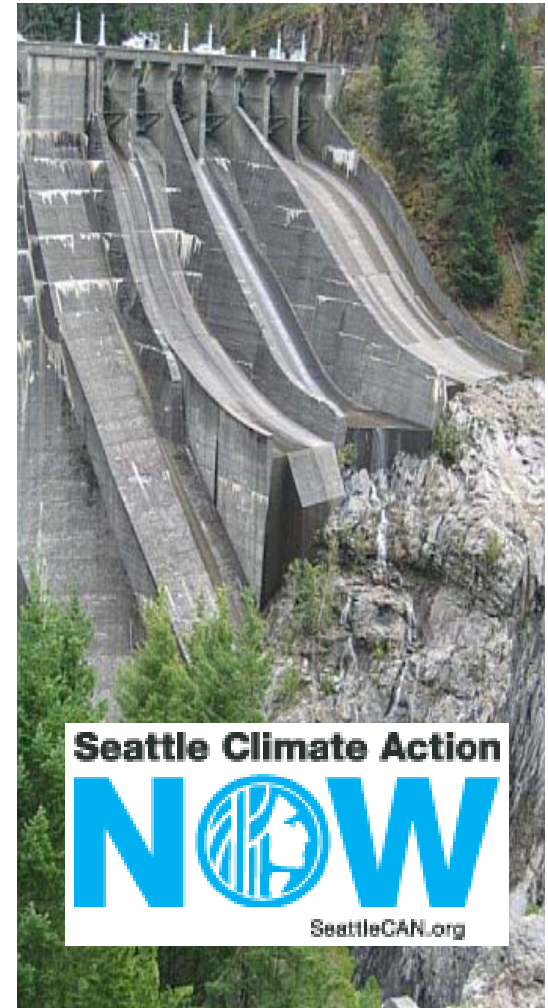
Seattle's Race and Social Justice Initiative

Washington State Initiative 937

Northwest Power and Conservation Council

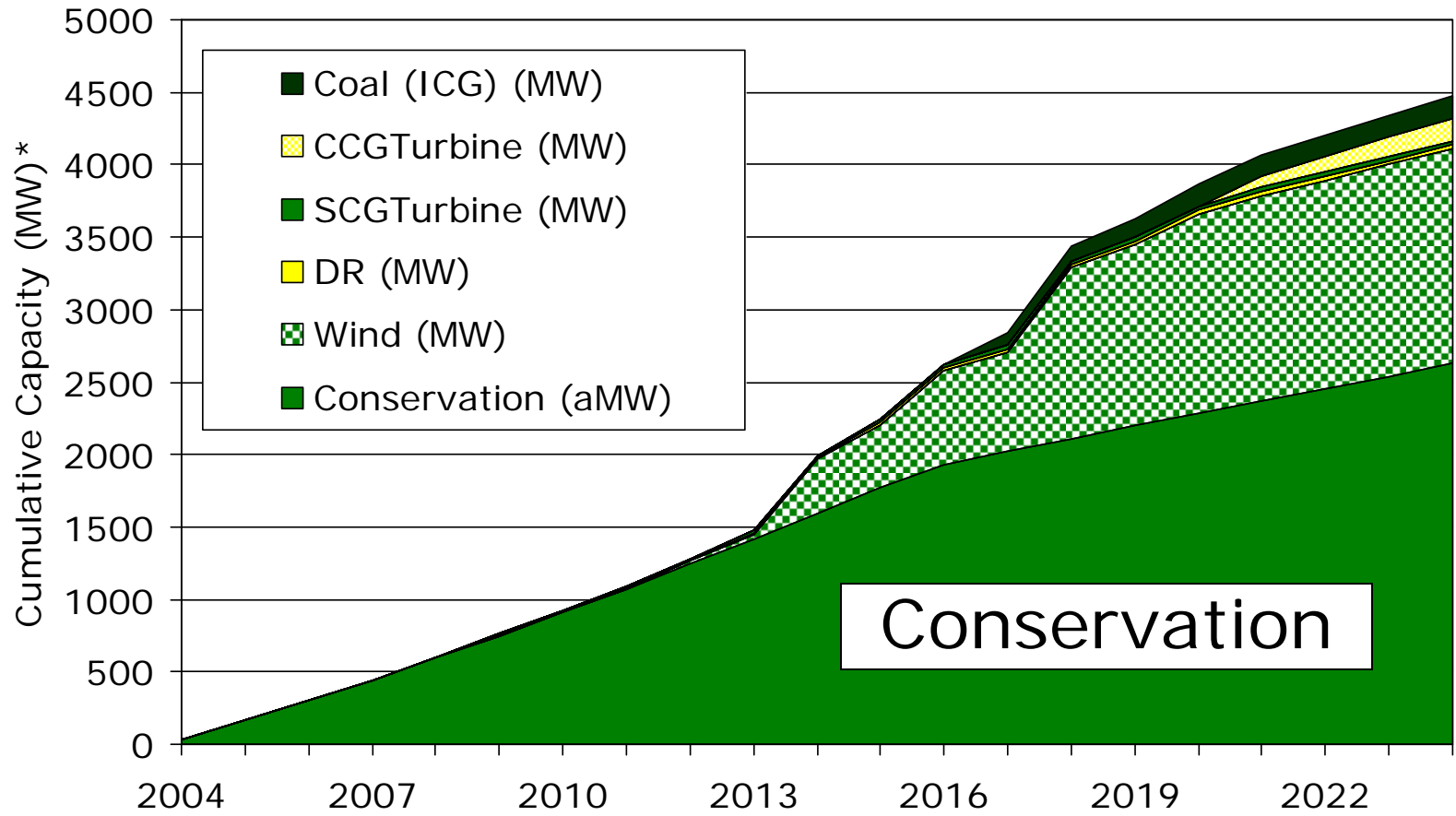
BPA 2011 Contract Changes

National Action Plan for Energy Efficiency



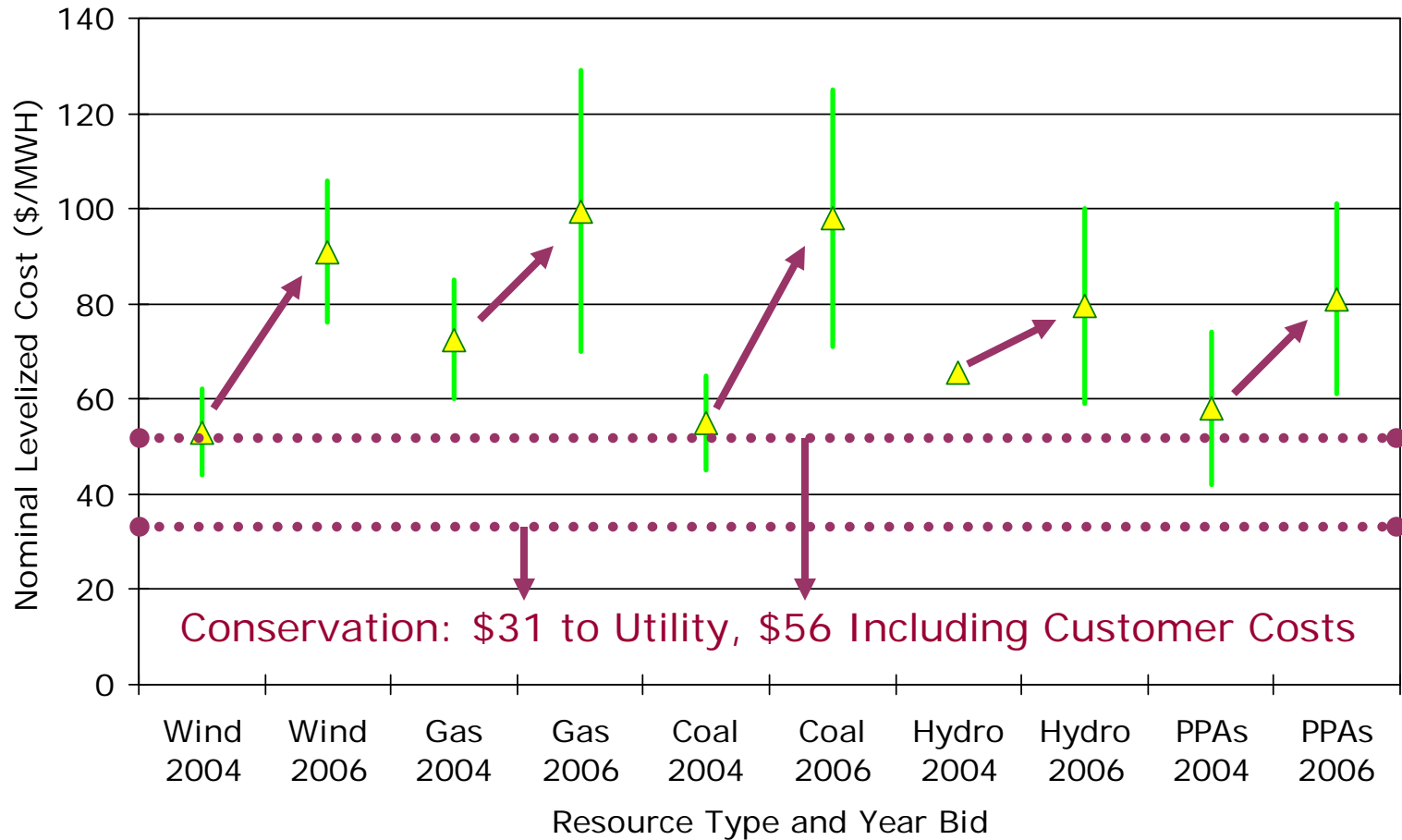
# Northwest Power & Conservation Council's Fifth Power Plan (2004):

*Conservation is the Key Resource*



# All Other Resources

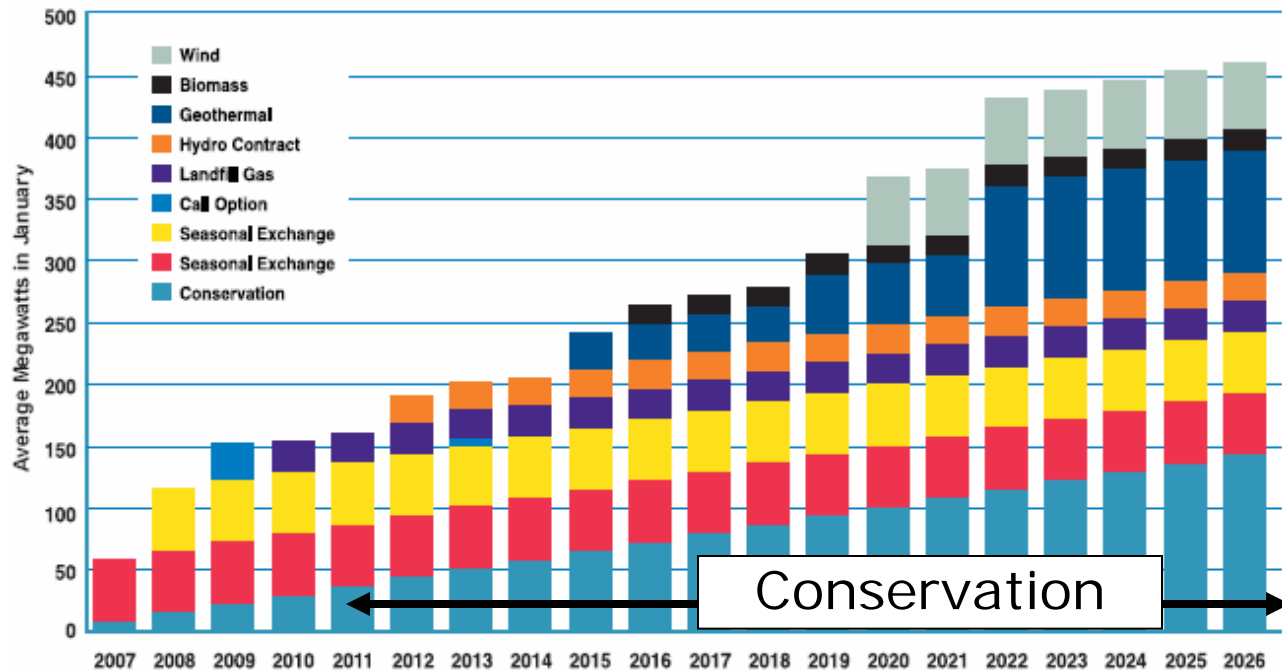
*Increasingly Expensive*



# 2006 SCL Integrated Resource Plan

## Conservation Recommendations

Mayor's Preferred Alternative



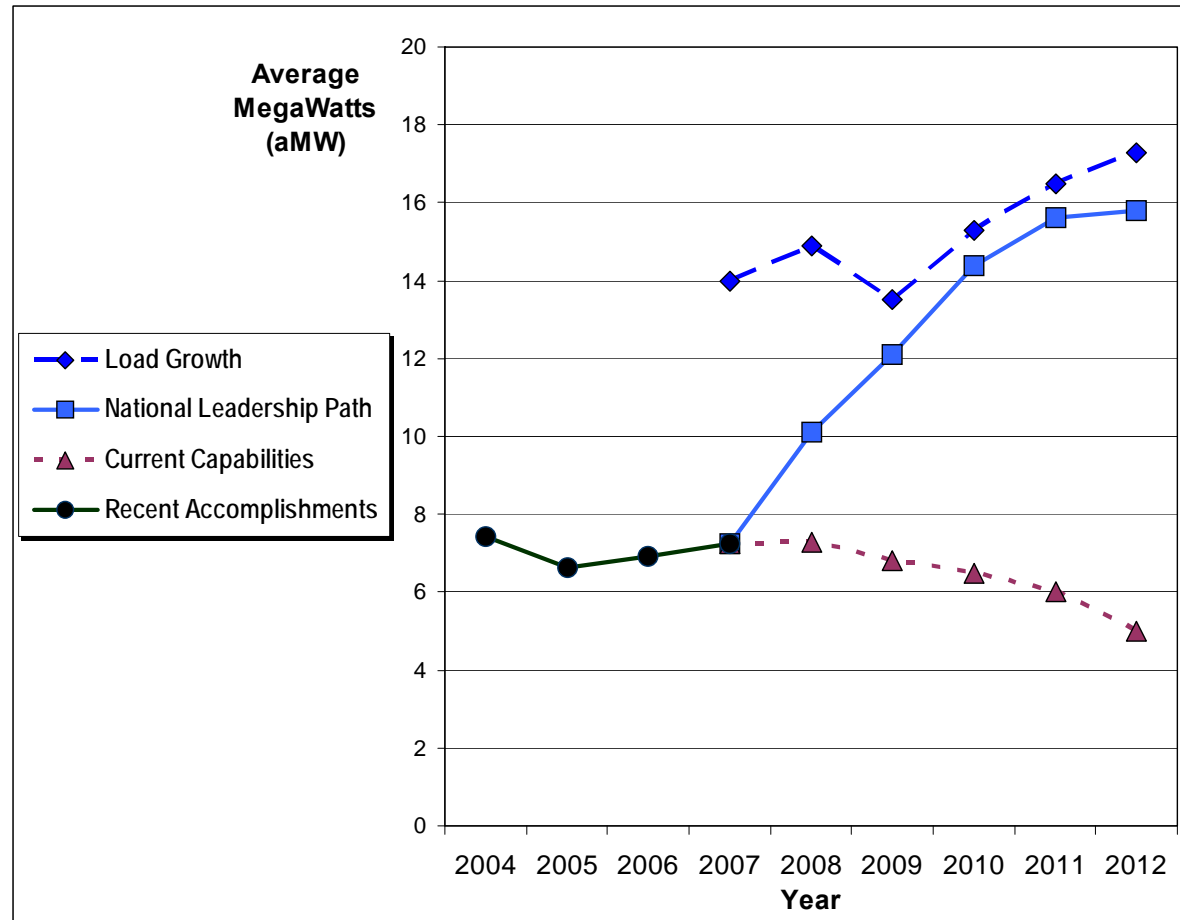
- 2006 IRP Recommendations:
  - Continued acquisition of cost-effective conservation
  - **Study the costs and benefits of accelerating the rate of conservation acquisition**

# The Conservation Power Plant

## *National Leadership Path—Case 1:*

### *Aggressive and Doable*

- **Rebuild** the infrastructure
- **Expand** existing conservation programs
- **Develop** new conservation programs
- **Incorporate** renewable energy and demand response



# CASE #1

## *Benefits*

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- Least Cost Option-
  - Over a 30 Year analysis
  - Negligible Rate Impacts
  - Flexible
    - Resources can easily be shifted from underperforming programs to higher performing program-
      - Performance metrics on portfolio and program level

# Case #1

## *Other Benefits*

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- Greenhouse Gas Reductions
- No Impact with Potential Carbon Tax/Regulation (per CO2 Tax Equivalent)
- Job Creation
  - Two models
    - 6.7 jobs per \$1,000,000 invested
    - 11 jobs per \$1,000,000 invested

# Commercial & Industrial Sectors

## *Program Offerings*

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- 50 +/-% of budget, 65 +/-% of energy savings
- Targeting entire range of customer types, sizes (new focus on medium)
- Key end uses: lighting, HVAC (cooling and heating), industrial processes
- Retrofit and new construction
- Program mix includes SCL-delivered, contracted and trade ally-focused

# Commercial & Industrial Sectors

## *Existing Programs*

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<b>Program</b>	<b>Target</b>	<b>Savings</b>	<b>Delivery Method</b>
Energy Smart Services (ESS) Commercial Retrofit	Existing commercial buildings	16%	SCL Staff
ESS Commercial New Construction	New commercial construction	4%	SCL Staff
ESS Industrial Retrofit	Industrial processes	10%	SCL Staff
Smart Business	Small commercial lighting	3%	SCL Staff

# Commercial & Industrial Sectors

## *Proposed Programs*

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<b>Program</b>	<b>Target</b>	<b>Savings</b>	<b>Delivery Method</b>
New Commercial Whole Building	New commercial construction	3%	Contracted
Lighting Trade Ally Program	Commercial lighting	23%	Trade Allies
Smart Grocery	Grocery refrigeration	2%	Regional BPA/Contracted
Commissioning/Retro-Commissioning	New construction and existing buildings	8%	Contracted
Energy Efficient Data Centers	Data centers, server farms	TBD	TBD

# Residential & Mixed Use Sectors

## *Program Offerings*

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- 20 +/-% of budget, 30 +/-% of energy savings
- Expanded range of offerings
- Lighting most significant end use
- Single and multifamily
- Retrofit and new construction
- Program mix includes SCL-delivered and contracted programs

# Residential & Mixed Use Sectors

## *Existing Programs*

<b>Program</b>	<b>Target</b>	<b>Savings</b>	<b>Delivery Method</b>
Built Smart	Multifamily new construction	2%	SCL Staff
Multifamily Retrofit	Existing multifamily buildings	2%	SCL Staff
WashWise Rebate	Efficient clothes washers	1%	Contractor; multi-utility collaboration
Twist & Save	Retail purchase of compact fluorescent lamps (CFLs)	22%	Contractor coordinating retail
Residential Lighting	Efficient lighting – CFLs and lighting fixtures	2%	Various methods
Refrigerator Recycling	Collection of operating second refrigerators	2%	Contractor
Neighborhood Power Project	One neighborhood per year	Platform	City staff, volunteers
Low-Income	Low-income single-family and multifamily residences	1%	Office of Housing through HomeWise program

# Residential & Mixed Use Sectors

## *Proposed Programs*

<b>Program</b>	<b>Target</b>	<b>Savings</b>	<b>Delivery Method</b>
Retail Big Box	Retail purchase of efficient products	<1%	Contracted
In Home Monitors	Residential customer behavior	TBD	Initial pilot
Home Audits/Home Use Support	Residential customer behavior	TBD	Initial pilot
LEED for New Homes	Single Family New Construction	TBD	Contracted
Mixed Use New Construction	Mixed use new construction	<1%	SCL Staff

# Renewable and “Other”

## *Program Offerings*

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- No Energy Savings or Production Attributed to These in Cost-Effectiveness Analysis for Portfolio During Planning Period
- Customer-Side Renewables
  - Green Up and Green Power
  - Washington State Renewable Production Incentives
  - On-Site Renewable and Cogen (comm'l/industrial)
  - Small Scale Renewable (residential)
  - Home Power with Financing (tbd)
- Other “Programs”
  - Lighting Design Lab
  - Green Building Team support
  - Energy Code support
  - Northwest Energy Efficiency Alliance
  - SCL Infrastructure Efficiency Improvements



# Action Plan

## *Reliability of Savings*

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- Diverse Portfolio (one customer at a time)
- Most savings in areas we know well
- New resources to ensure reliability of energy savings

# Metrics

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## Performance Metrics

- Energy Savings vs Annual Goal (in MWhs or aMW)
- Cost of energy savings (\$/first-year MWh)
- Applied at Portfolio and Program Level
  - At Program level—identifies which program are performing best and how resources should be allocated

## Other evaluation criteria for flexibility

- Customer Fairness/Equity
- Race & Social Justice
- Green Jobs
- Cost-Effectiveness (long-term)
- Program Saturation/Potential
- Technology Development (status, potential to accelerate)

# Alternatives

## *A Different Future and a Different Choice*

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- **Case #2: Lower Participation**
  - What if resources are allocated but customers don't participate as planned?
- **Case #3: Reduced Budget and Staff**
  - What if a less aggressive path is chosen by decision-makers?

# Seattle City Light

*National Leadership Path 2008-2012*

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## Building a World Class Conservation Power Plant (one customer at a time)

*"Instead of costly power from other sources, we are tapping the best energy resource available - conservation. It's another example of how we can power this city without toasting the planet."*

Mayor Greg Nickels

*February 2008 Press Release*