

# Leading By Example: Energy Efficient State Buildings and an REPS in North Carolina

Larry Shirley  
Director  
NC State Energy Office

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presentation.**

*State Energy Office*

**ENERGY**

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1-800-662-7131

N.C. Department of Administration

"Ensuring a sustainable energy future"

# State Energy Office

- ▶ Lead State Agency for Energy Programs and Information
- ▶ Energy Efficiency
- ▶ Renewable Energy
- ▶ Alternative Fuels
- ▶ Energy Emergency Response

# Senate Bill 668

- ▶ Energy Efficiency in New and Existing State Buildings
- ▶ 20% Reduction in Energy Consumption by 2010; 30% by 2015
- ▶ New Buildings: 30% better than ASHRAE 90.1 2004 Standards
- ▶ Major Renovations: 20% better

# Leading by Example in State Buildings

- ▶ State Agencies and Public Universities are primary audience
- ▶ Community Colleges: must report energy consumption annually
- ▶ \$5 million for ECMs (3 year payback)
- ▶ Funds for T.A. and Training
- ▶ Administered by SEO and SCO

# Utility Savings Initiative

- ▶ Operating since 2002
- ▶ Energy Costs Avoided: \$66 million
- ▶ 3,000+ people trained
- ▶ Energy Costs rising faster than we can cut consumption (33% increase in 3 years)

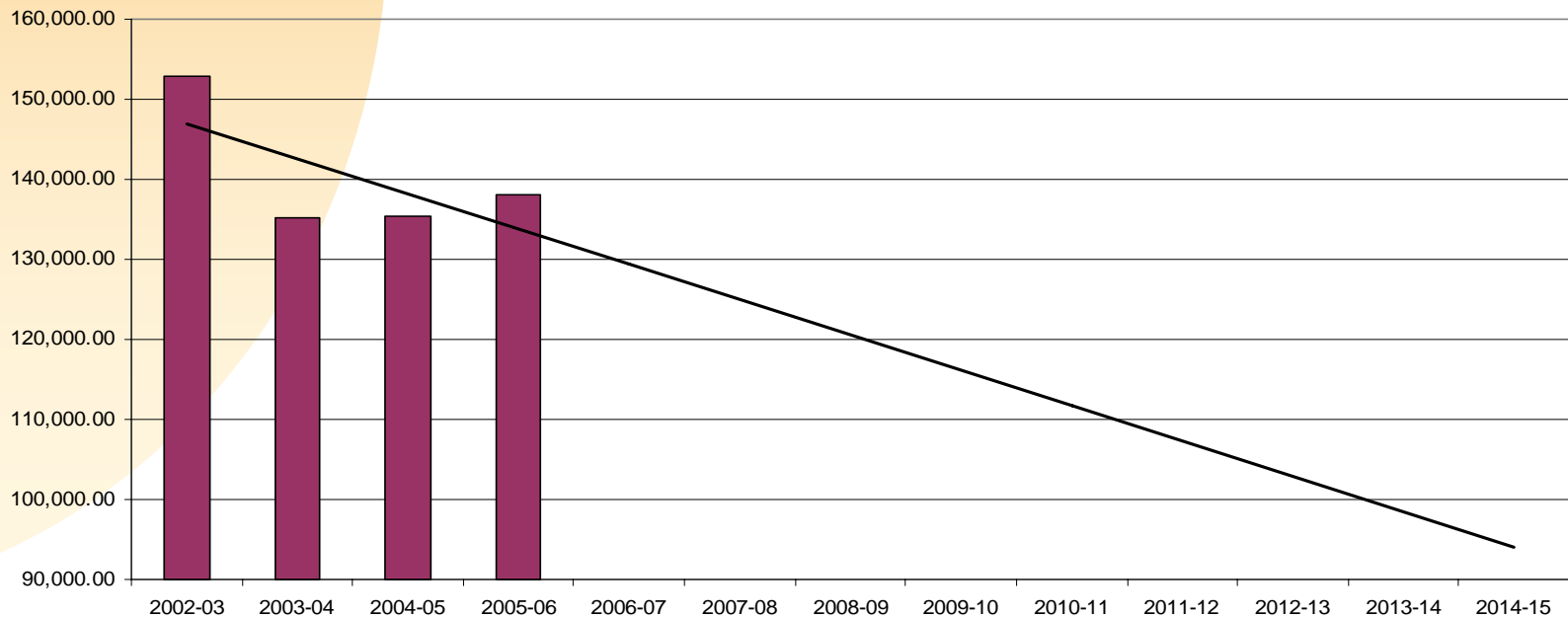
# Avoided Costs Reported thru 2005-06

## Avoided Costs Summary

Description	Amount thru 6/30/06
Energy Efficiency Reductions	\$56,498,048
DOT traffic signals to LED	\$2,105,884
Rate/Account Analysis	\$4,767,235
Rate Negotiations	\$3,444,168
<b>TOTAL</b>	<b>\$66,815,335</b>

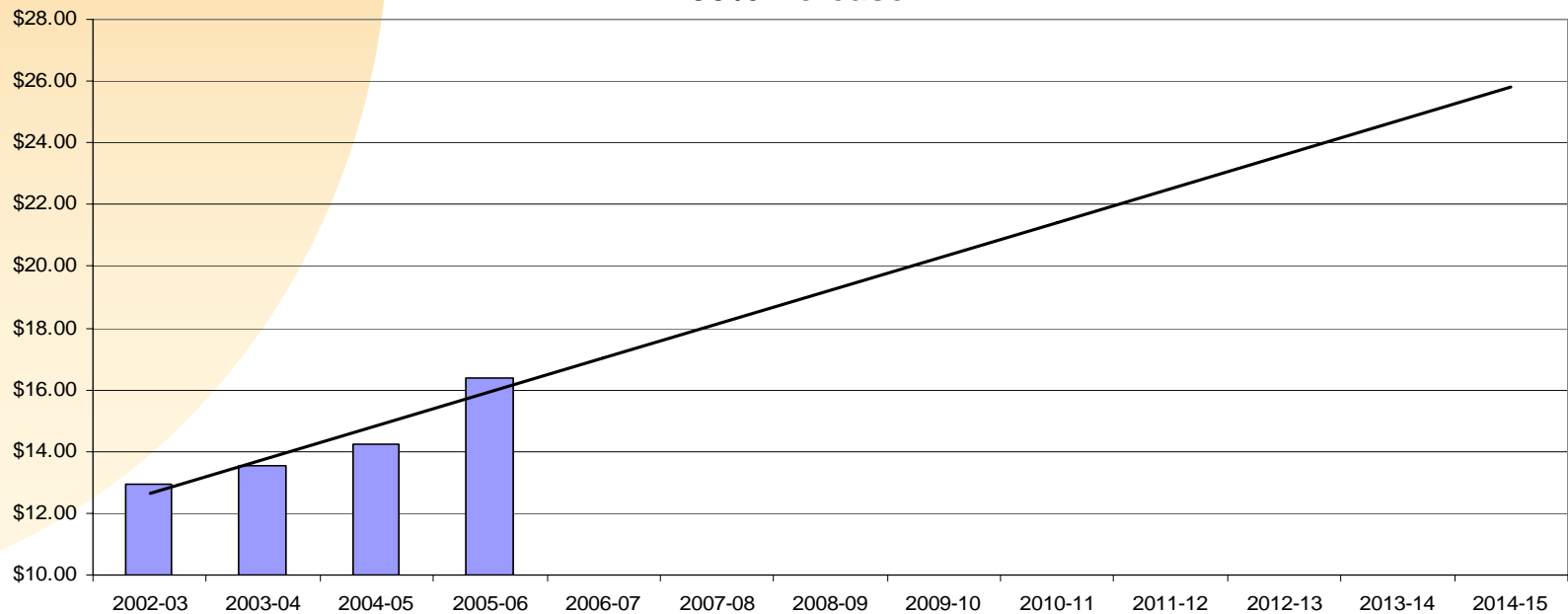
# Projected Trends

Energy Use per Gross Square Foot  
39% Decrease



# Projected Trends

**Cost per Million Btu Trend**  
**99% Increase**



# The Solution

- ▶ Lead-by-example program for state agencies and universities
- ▶ Encompassing
  - » *Facilities staff*
  - » *Operations and Financial staff*
  - » *Employees*
  - » *Faculty and students*
- ▶ Comprehensive
  - » *Utility Accounting*
  - » *Operations & Maintenance*
  - » *Awareness and Training*
  - » *Performance Contracting*

# Utility Accounting

- reviewing and tracking monthly utility bills
- resolving billing errors
- negotiating and optimizing rates,
- \$8.2 million since the program's inception.

## Status

- *New RFP with Johnson Controls*
- *Department of Correction*

# Operations and Maintenance

- facility audits
- identifying possible projects
- incentive/assistance programs

## Status

- *HVAC Digital Controls Tune-up program on track to save state \$900,000 with about 90 tune-ups at a cost of \$2,000 per tune-up.*

# Awareness and Training

- Training for Facilities Staff
  - Energy Management Diploma courses
  - Boiler, Lighting, Compressed Air, & Motor courses
  - HVAC Technical training
- Training for Operations Staff
  - Strategic Energy Planning workshops
- Training for employees
  - Conservation Awareness Teams (CAT)

Coming Soon...

➤ *CAT Team Guide*

# Performance Contracting

- Large Capital projects, inadequate R&R funds
- State pre-qualified ESCOs
- Templates for RFP, IGA, & ESA
- \$40 million in approved projects + \$12 million in pending contracts

## Status

- *N.C. Museum of Art*  
*54% savings*
- *Downtown Government Complex (\$20M)*



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# Senate Bill 3: Renewable Energy and Energy Efficiency Portfolio Standard

- ▶ First REPS in Southeast
- ▶ Sponsored by Senator Albertson
- ▶ Build upon NCUC sponsored study by LaCapra and Associates
- ▶ Creates an REPS with final requirements of 12.5% by 2021
- ▶ 5% of the 12.5% can be Energy Efficiency (i.e. renewable floor of 7.5%)

# REPS Provisions in SB3

- ▶ 10% REPS for rural electric coops and municipal utilities
- ▶ Set aside provisions for swine waste, poultry waste and solar energy
- ▶ Requires implementation of all cost-effective DSM and Energy Efficiency
- ▶ Rulemaking currently underway @ NCUC

# REPS Provisions in SB3

- ▶ Caps imposed to limit annual amount that utilities must spend to purchase renewable energy and the charges to their customers
- ▶ Authorizes NCUC to apply more stringent requirement if there is a conflict between state and federal laws
- ▶ Authorizes a procedure to allow the utilities to recover the costs of efficiency and DSM

# Solar , Swine and Poultry Waste

- ▶ By 2018, a minimum of two tenths of one percent (0.2%) of total kwh sold must come from solar energy, swine waste and poultry wastes
- ▶ Incremental benchmarks established (e.g. 0.14% from swine waste by 2013)
- ▶ Renewables broadly defined

# Cost Recovery of Renewables: Two Mechanisms

- ▶ Avoided costs from RE purchases for compliance with REPS will be recovered through annual fuel adjustment clause
- ▶ Per account annual assessments to allow recovery of “incremental costs” (i.e. costs incurred by a utility above the avoided costs)

# Cost Caps on REPS

- ▶ Maximum annual charges per account
- ▶ Residential: \$10/2008-11; \$12/2012-2014; and \$34/ 2015+
- ▶ Commercial: \$50/2008-11; \$150/2012+
- ▶ Industrial: \$500/2008-11; \$1,000/2012+

# A New Direction?

“Energy efficiency is the 5<sup>th</sup> Fuel...the lowest cost alternative and emissions-free. It should be our first choice in meeting our growing demand for electricity, as well as in solving the climate challenge.”

Jim Rogers  
CEO, Duke Energy

# For More Information

- ▶ Larry Shirley
- ▶ Director
- ▶ State Energy Office
- ▶ 1340 Mail Service Center
- ▶ Raleigh, NC 27699
- ▶ (919) 733-2230
- ▶ [Larry.Shirley@ncmail.net](mailto:Larry.Shirley@ncmail.net)
- ▶ [www.energync.net](http://www.energync.net)