

SC ENERGY OFFICE



SC BUDGET AND CONTROL BOARD

Saving Energy in Water and Wastewater Facilities

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S.C. Energy Office Mission

*Helping citizens, businesses and public entities
save energy and money through greater
efficiency and cleaner energy sources*



WHAT DO WE KNOW ABOUT ENERGY IN SC?



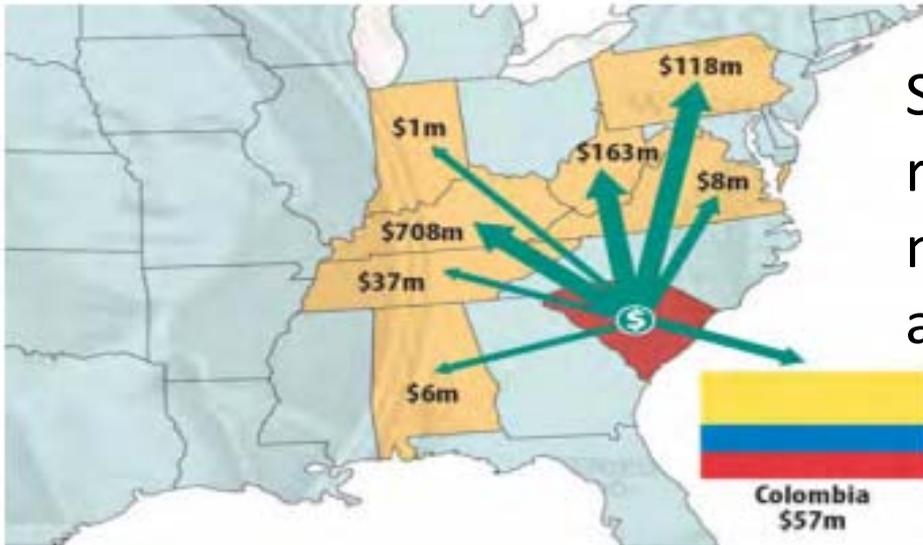
**Table 1. Energy Intensity in South Carolina Relative to the Rest of the United States
(1 = Most Energy Intensive)**

Category	Rank
Electricity Consumption Per Capita*	7 th
Energy Consumption Per Capita	15 th
Energy Consumption Per Dollar of GSP	13 th
Total Electricity Consumption	18 th
Total Energy Consumption	22 nd

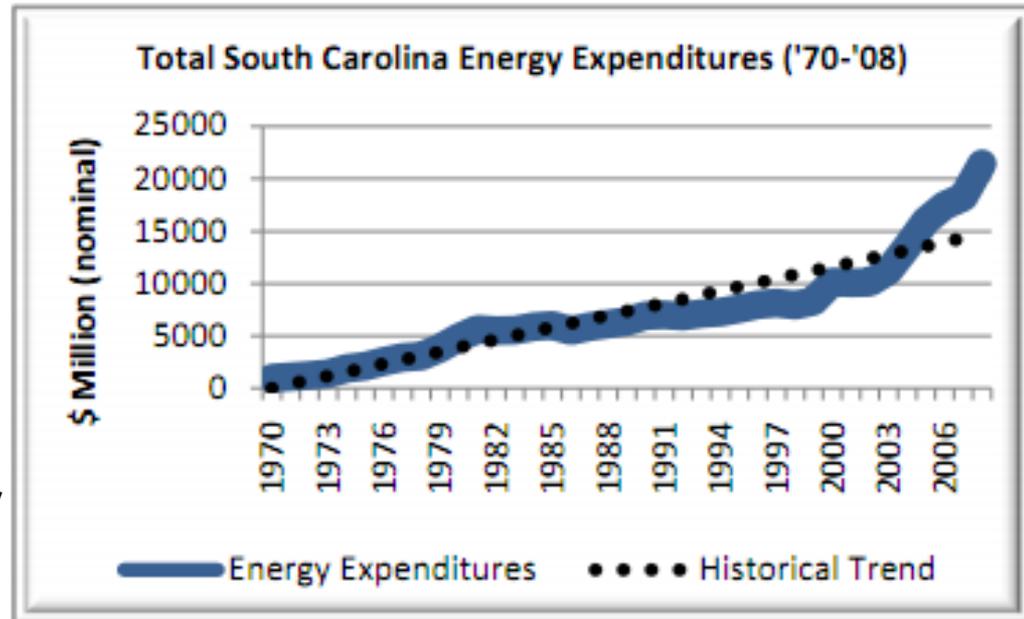
* ACEEE estimate (EIA 2009b, Economy.com 2009)

ACEEE South Carolina's Energy Future, Nov 2009, based on 2007 use

Money Leaving South Carolina for Coal Imports ('08)



SC has no conventional energy resources – importing coal, uranium, natural gas & petroleum costs money and jobs

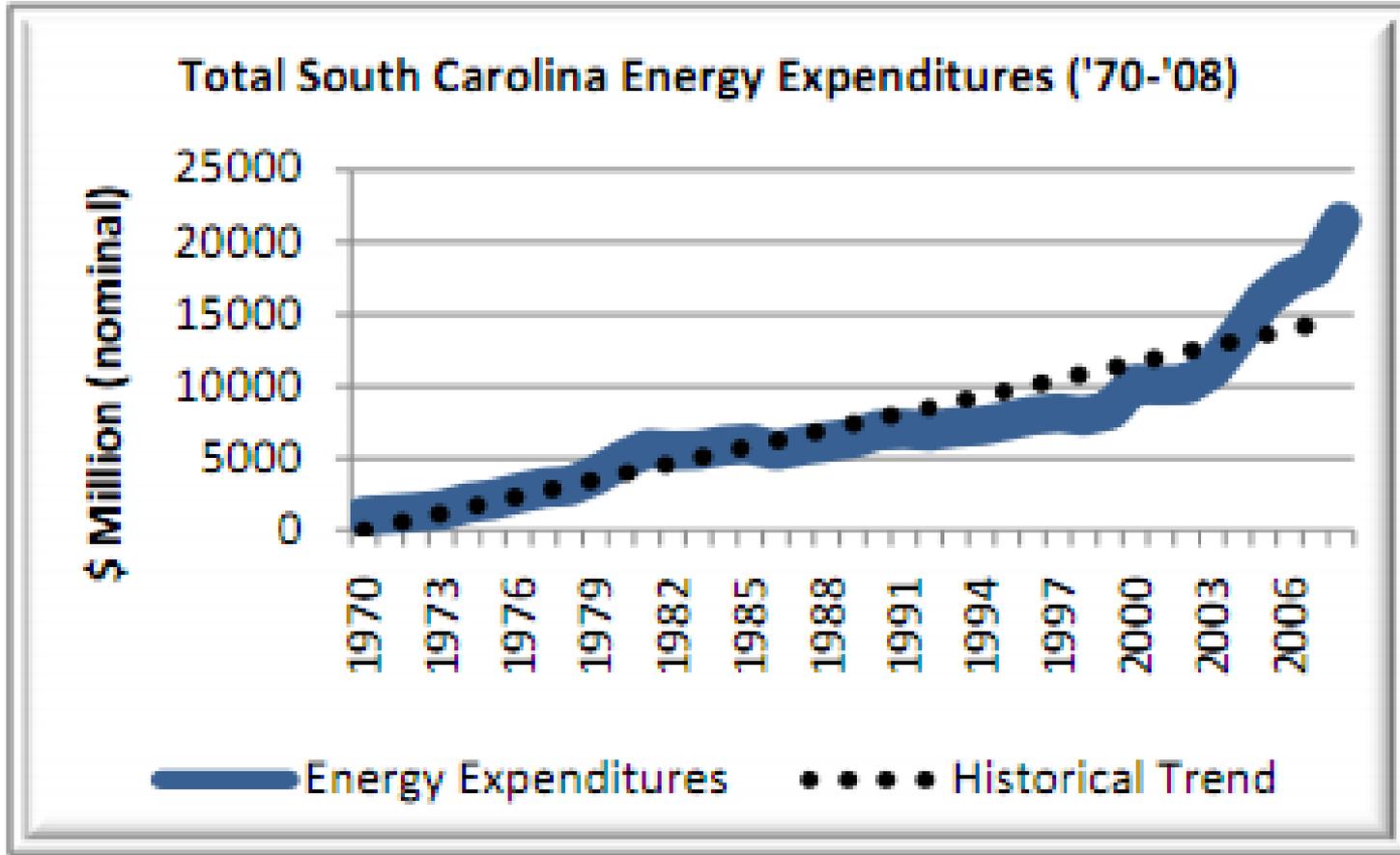


Spend about **\$20 billion** on energy annually

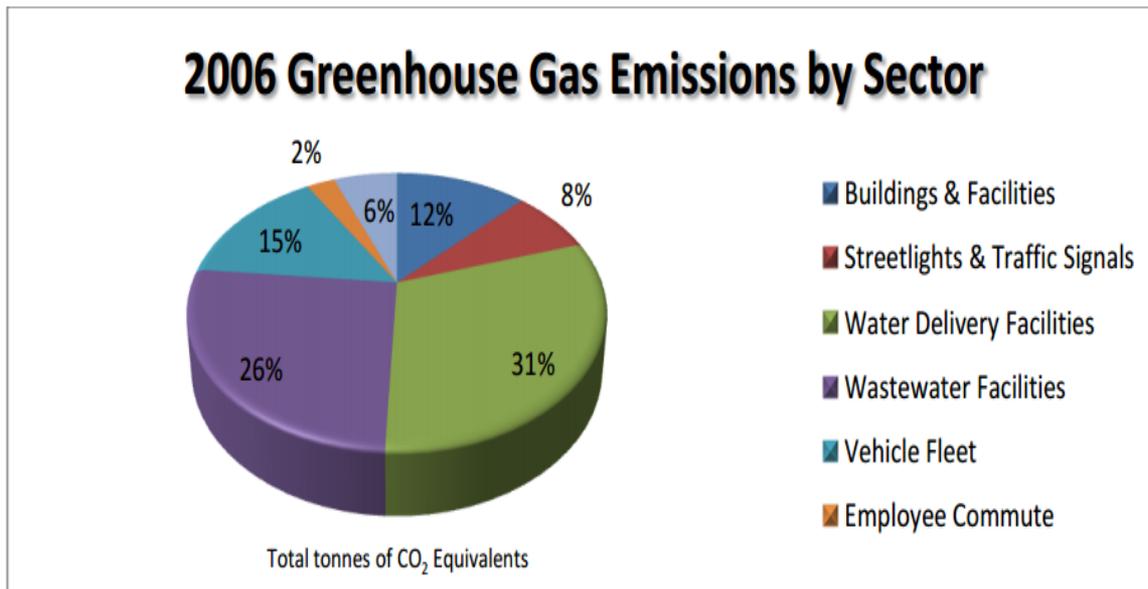
WHY SHOULD I CARE?



Reminder: Costs continue to rise



City of Columbia Greenhouse Gas Inventory



WHAT SHOULD I DO?



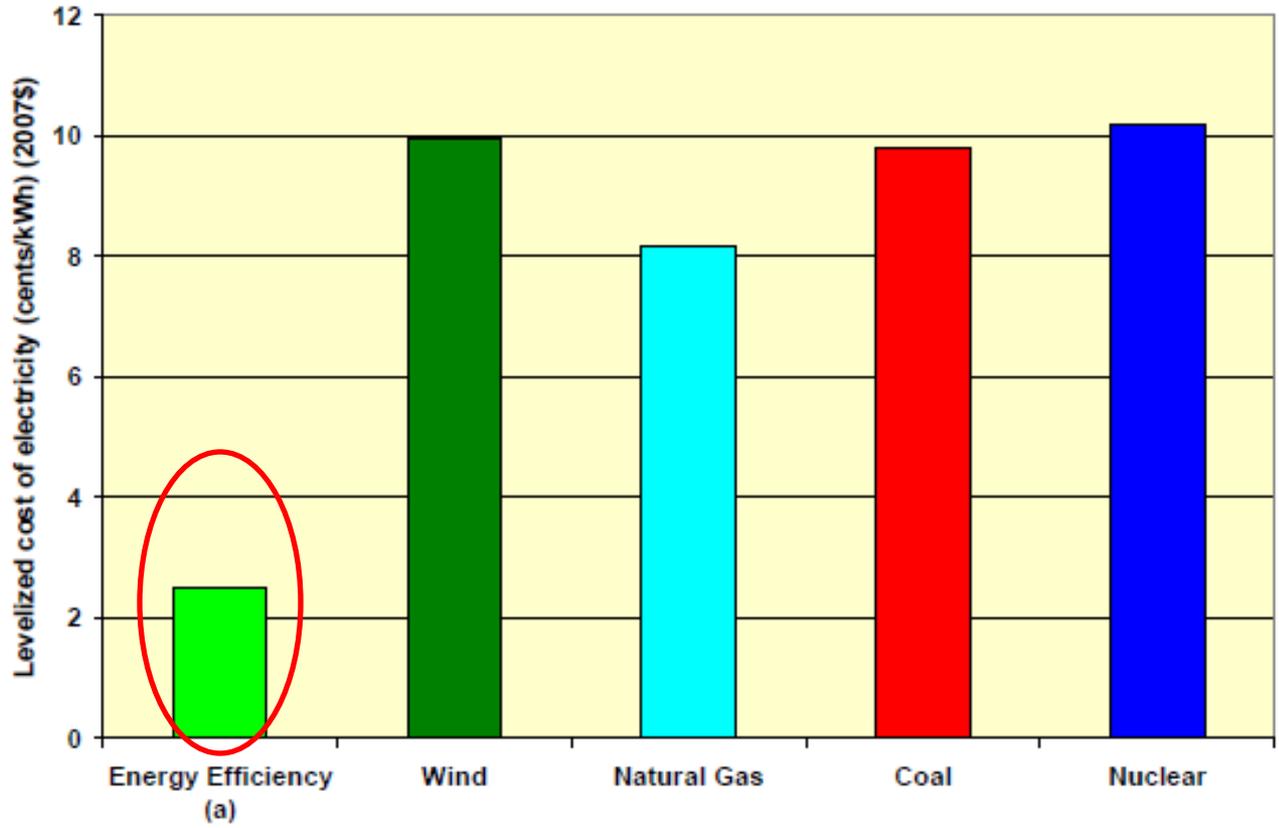
Efficiency First

“maximizing energy efficiency and decreasing energy use will remain the lowest hanging fruit of the next several decades.”

U.S. Energy Secretary Steven Chu

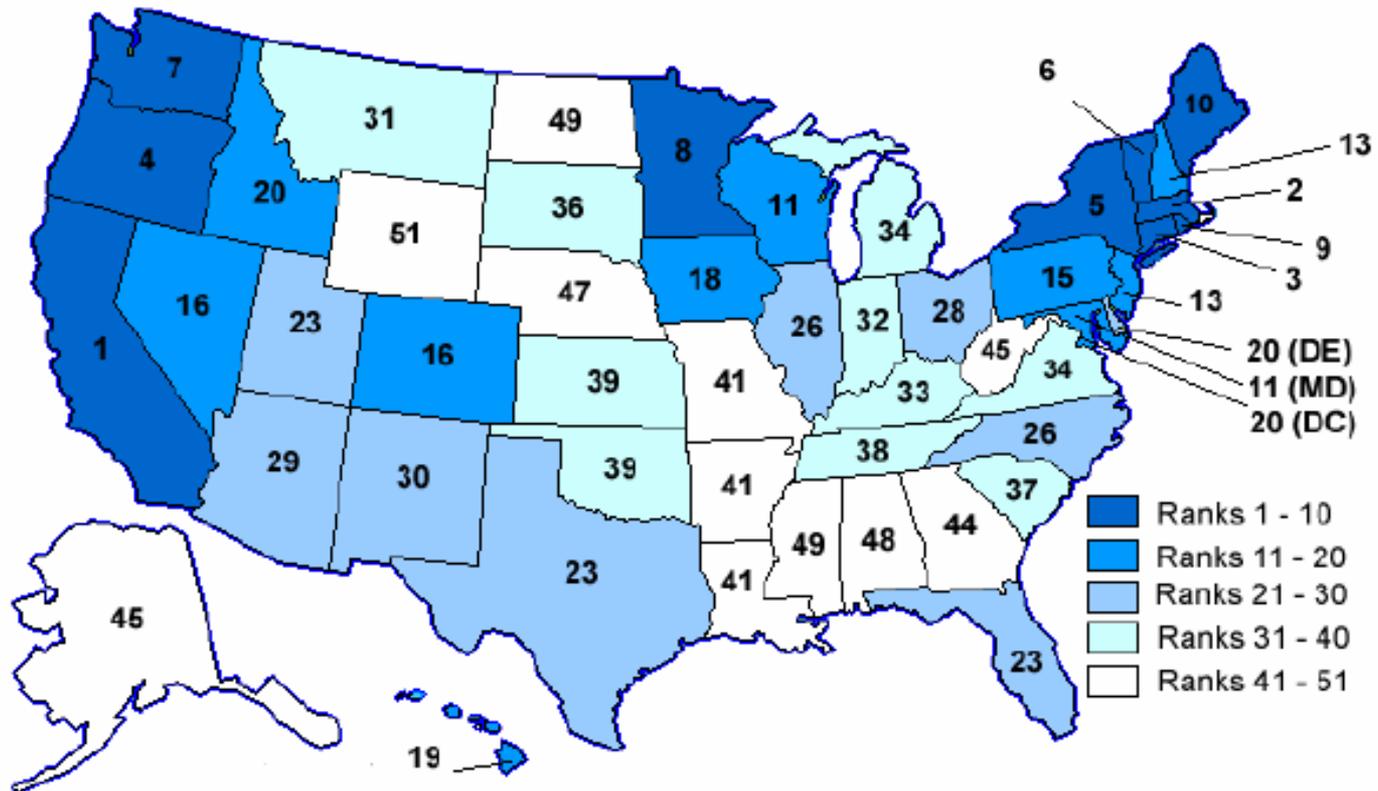


Figure 1. Levelized Electricity Resource Cost Estimates for 2020



Source: EIA 2009(e), except for (a): Energy efficiency program costs are the estimate of current utility efficiency program cost of saved energy (CSE), as described in Friedrich et al. (2009).

Figure 5. 2009 State Efficiency Scorecard Results



Source: Eldridge et al. (2009)

What Works: Lake City - \$57,964

- Upgraded 16 motors to high efficiency models
- Installed Power Factor Correction System
- Estimated savings of \$13,978
- Expected payback within 4.2 years

What Works: Town of Lamar - \$25,730

- Replaced electric control panel
- Upgraded 5 old pump motors in use daily
- Estimated savings of \$5,178 per year
- Payback in about 5 years

What Works: Sullivan's Island - \$61,000

- Installed a dissolved oxygen monitoring system with SCADA
- Installed variable frequency drives on motors powering brush aerators
- Automated sluice gate will vary the level of submergence on rotor blades
- Estimated annual savings of \$10,081
- Expected payback within 6.1 years

What Works: Methane Capture at Renewable Water Resources (ReWa)

- Awarded \$500,000, total project cost \$2,187,000
- Installed a co-generator at the Mauldin Road WWTP to capture methane and use to generate electricity and provide heat
- Expected savings over \$3 million

Mauldin Road WWTP





HOW CAN WE HELP?



Carrots and Sticks: State Incentives

Renewable/Alternative

- Credits for biomass energy and equipment purchases
- Incentive payments for biomass energy users
- Credits for biofuel production and use
- Credits for solar energy equipment & installation
- Credits for plug-in hybrid vehicle purchase

Efficiency

*Virtue is its own reward.
Maybe that's why I'm so
bored!*

-Margaret Fishback

Energy Loans

- ConserFund Loan
- Energy Efficiency Revolving Loan
- USDA and Other Federal Loans
- Clean Water State Revolving Loan
- Drinking Water State Revolving Loan



ConserFund



- for implementation of energy-efficient improvements that provide long-term cost reductions
- Eligible applicants: public entities and non-profits

Benefits of ConserFund

- 2% annual interest rate
- 100% of eligible project costs
- One project or multiple projects up to \$500,000 per (state) fiscal year
- Maximum term of 10 years.
- Payments made annually after a grace period for construction



Energy Efficiency Revolving Loan EERL

- Managed through a contract with JEDA/BDC
- Leverage funds with banks, with Small Business Administration funding
- Contact Edwin Lesley at 803-744-0301

Southeast Rural Community Assistance Project, Inc.

- Can conduct energy efficiency audits at water and wastewater plants
- Contact Bob Britts 803-731-0584



Office of Local Government Loans

- The Office of Local Government administers the Clean Water and Drinking Water State Revolving Loan Funds
- Funds previously allocated to OLG for a the water and sewer grants program have been transferred by proviso to the new Rural Infrastructure Authority (RIA)

The New Face of OLG

Clean Water State Revolving Fund (SRF)

- The Clean Water SRF offers long-term, low-interest loans for publicly owned wastewater facilities. It was authorized under the Federal Clean Water Act.
- DHEC handles the technical portions of the program, while the OLG makes the loans and manages the financial aspects.
- *For FY 2013 over \$200 million is available for projects at interest rates ranging from .90% to 1.90%.*

Office of Local Government Loans

Drinking Water State Revolving Fund (SRF)

- The Drinking Water SRF offers long-term, low-interest loans for public drinking water facilities. It was authorized under the Federal Safe Drinking Water Act.
- DHEC handles the technical portions of the program, while the OLG makes the loans and manages the financial aspects.
- *For FY 2013 approximately \$45 million is available for projects at interest rates ranging from .90% to 1.90%.*

Utility Rebates

- Information on web site
- Can pay up to half of the project cost
- Call to clarify custom rebates



Energy Efficiency for Business



Smart Saver[®] Incentive Program

EPA Energy Star Program Assistance

- Portfolio Manager allows you to measure and track energy use. SCEO can assist
- Access [Guidelines for Energy Management](#) for a step-by-step collection of best practices for improving energy and financial performance
- Online training sessions
- See EnergyStar.gov, Buildings and Plants



QUESTIONS?

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