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Southern Alliance for
Clean Energy



Energy Efficiency: Regulating Cost-Effectiveness

Florida Public Service Commission

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Energy Efficiency is Clean Energy

Southern Alliance for Clean Energy endorses and supports a public utility's energy efficiency program if:

- **it leads to real, sustainable energy savings that helps avoid the need for any new baseload power plants and**
- **especially if it enables a utility to shut down existing coal-fired power plants.**

Qualities of Good Programs

- **Cost-effective for the customer**
- **Fair for all types of customers**
- **Offer attractive, but not excessive, financial returns to the utility**
- **Lead to real, sustainable energy savings**

Purposes of a Cost-Effectiveness Definition

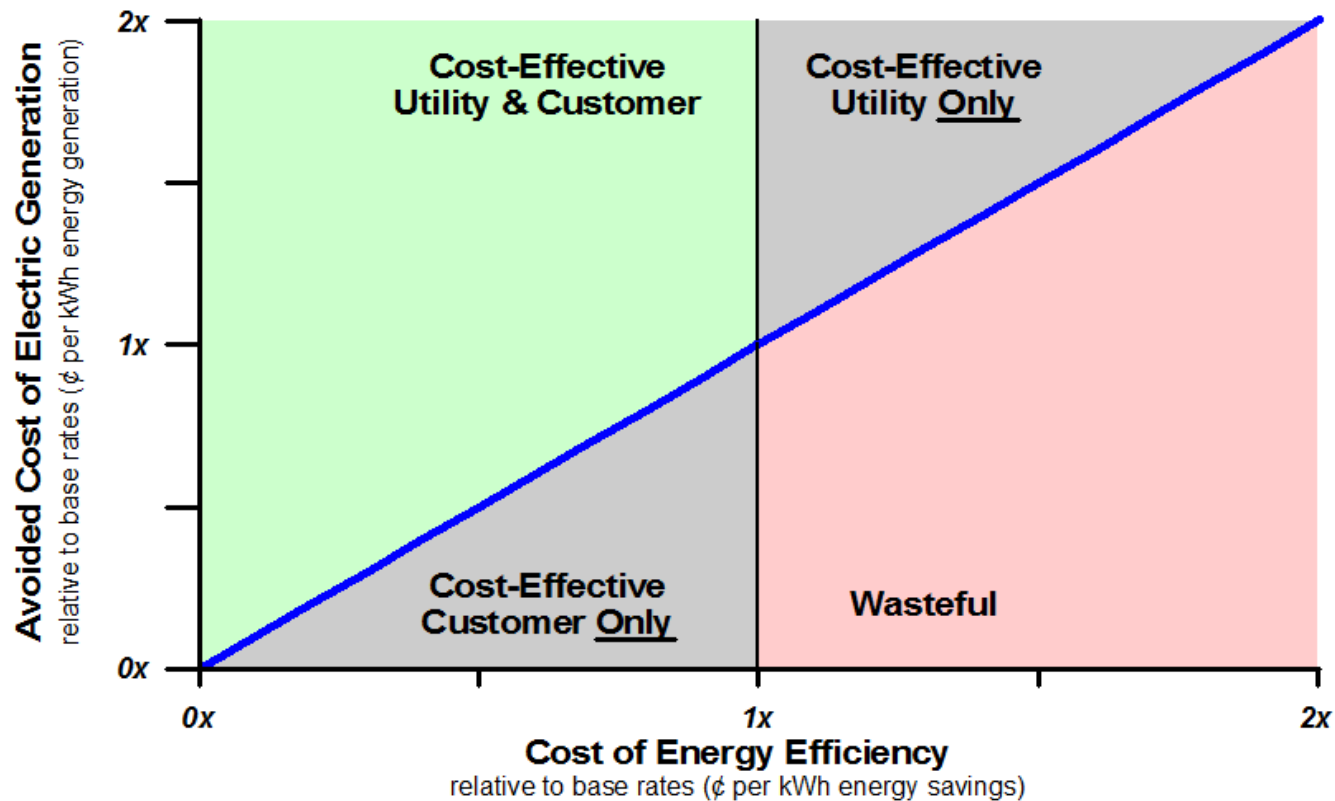
- **System-level commitment to DSM**
 - Integrated resource plan
 - DSM plan
- **Program evaluation**
 - Prospective (approval)
 - Retrospective (improvement)
- **Measure implementation**
 - Managerial, field level decision making

Definition is a Policy Question, Balancing Competing Interests

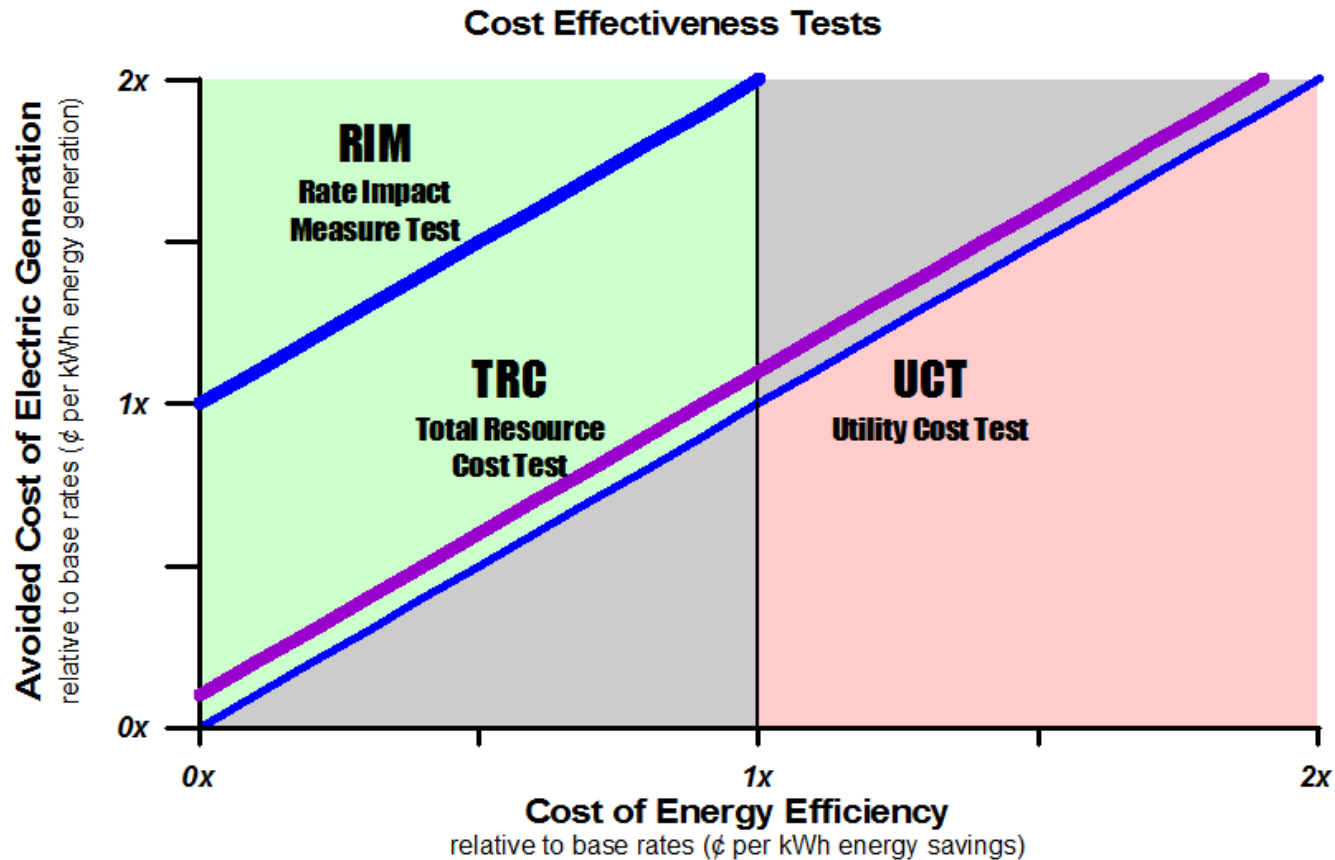
- **Energy Efficiency:**
 - Energy Security
 - Reduce Global Warming Pollution
 - Lowest Overall Energy Costs
- **Utility Profits:**
 - Stable, reliable system
- **Fair Rates:**
 - Competitiveness (short & long-term)

Defining Cost-Effectiveness

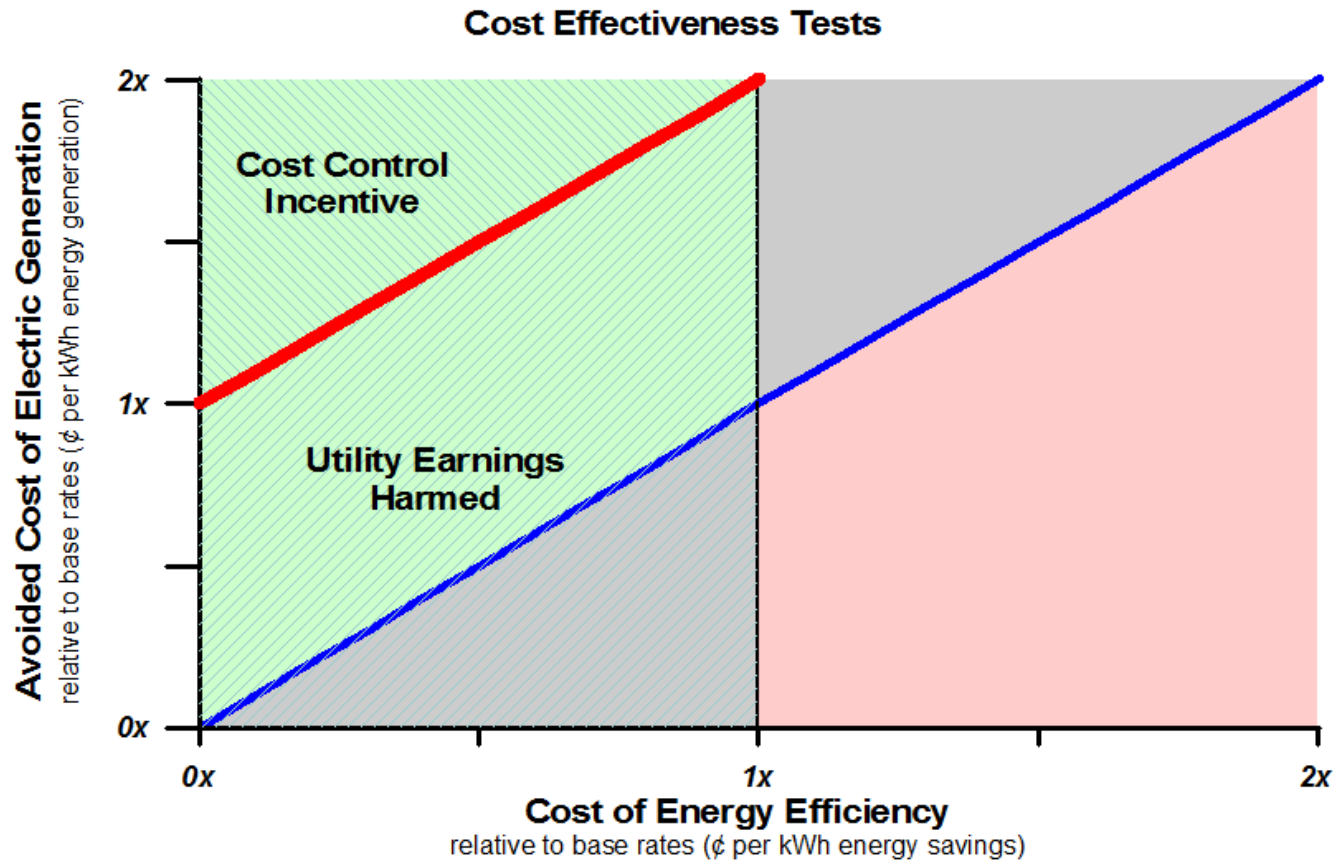
Cost Effectiveness Tests



Cost-Effectiveness Tests

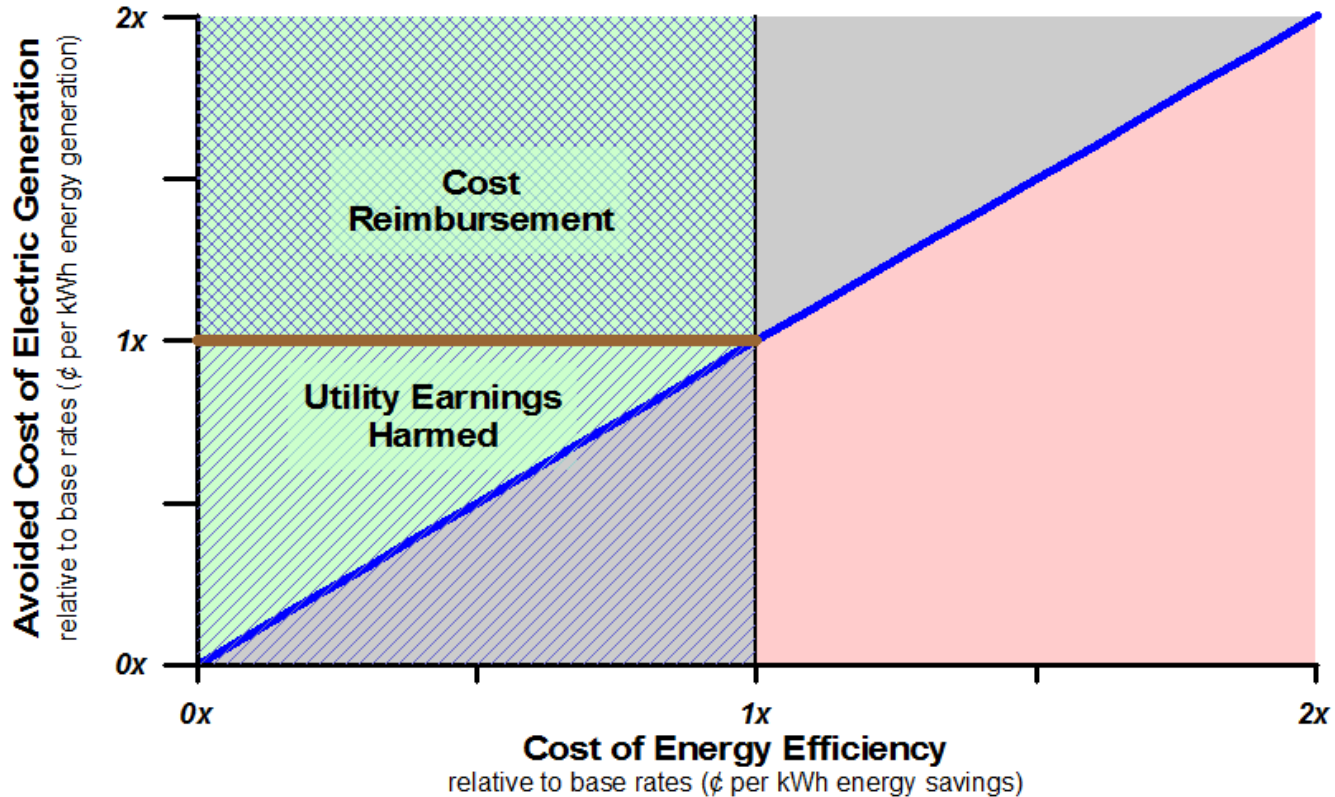


Utility Cost Control Incentive



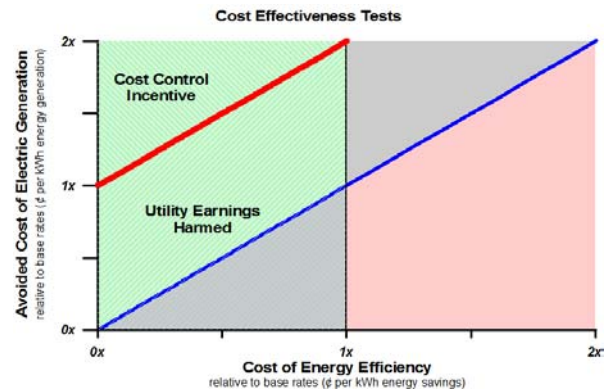
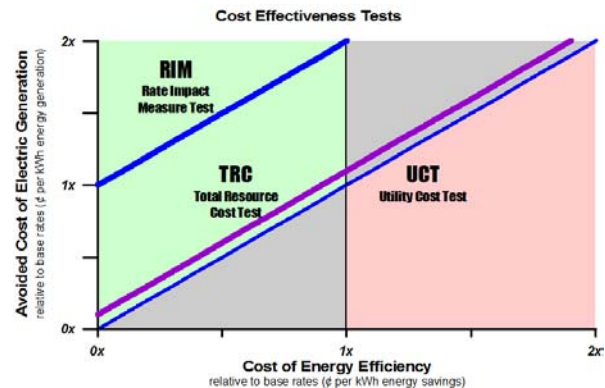
Cost Reimbursement Rider

Cost Effectiveness Tests



RIM is Utility-Earnings Driven

- RIM Programs don't capture all cost-effective EE
- Cost recovery for programs that pass RIM is an unnecessary financial incentive!



RIM is Inequitable

- RIM helps non-participants in the short run by increasing system utilization and deferring rate increases
- Ultimately, total energy services costs are higher and harm all customers and the state economy
- Some energy efficiency happens anyway, helping the system avoid or defer fixed costs
 - Non-participants enjoy benefits as “free riders”

RIM is “Less Uncertain”

UAC

Utility Avoided Costs

RL

Revenue Loss

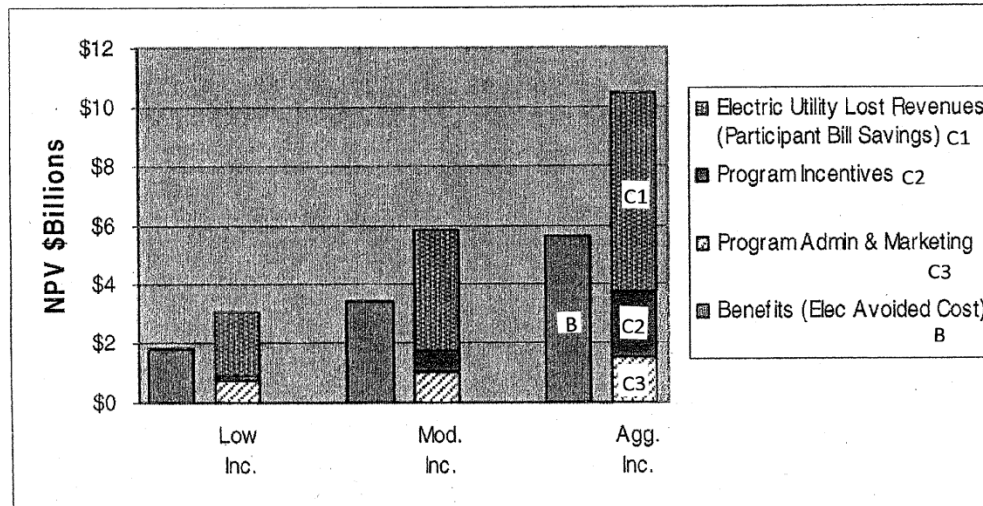
+ PRC + INC

Program
Administration
Costs

Participant
Incentive
Payments

Lost Revenues Drive RIM Results

Figure 21: RIM Benefits and Costs (\$B)



**RL
INC
PRC
UAC**

Note: The above RIM analysis is only for the electric utility and does not include gas utility RIM results.

Source: Georgia Power's 2007 "Achievable Energy Efficiency Potential Assessment" conducted by Nexant.

RIM is “Less Uncertain”

UAC

Utility Avoided Costs

AC x Δ EG + PRC + INC

Rates x Demand Change
Revenue Loss

Program
Administration
Costs

Participant
Incentive
Payments

RIM is “Less Uncertain”

UAC

Utility Avoided Costs

$$\text{AC} \times \Delta \text{EG} + \text{PRC} + \text{INC}$$

Rates x Demand Change Revenue Loss Program Administration Costs Participant Incentive Payments

Fairly Certain: Costs and demand change are forecast based on engineering and marketing experience

RIM is “Less Uncertain”

Modeled Statically: Rates and avoided costs are subject to dynamic changes

- ← Fuel costs
- ← Generation additions
- ← Transmission & Distribution

UAC

Utility Avoided Costs

$$\text{AC} \times \Delta \text{EG} + \text{PRC} + \text{INC}$$

Rates x Demand Change Revenue Loss Program Administration Costs Participant Incentive Payments

RIM is “Less Uncertain”

“Peaker Method”: Marginal costs (5-7 ¢/kWh)

- Understated when baseload needed
- Uncertain over large changes in load

UAC

Utility Avoided Costs

Forecasts should be consistent

AC x **ΔEG** + **PRC** + **INC**

Rates x Demand Change
Revenue Loss

Program
Administration
Costs

Participant
Incentive
Payments

Rate Base: Considering nuclear power plants (10-12 ¢/kWh)



RIM Can Overstate Rate Pressure

UAC

Utility Avoided Costs

AC x **ΔEG** + **PRC** + **INC**

Rates x Demand Change
Revenue Loss

Program
Administration
Costs

Participant
Incentive
Payments

Avoided
Fuel
Costs

Avoided
Fixed
Costs

Reduced
Contribution
to System
Fixed Costs

← Depreciation
← Rate design

RIM Limitations Often Ignored

- **California Standard Practice Manual:**
 - “Results of the RIM test are probably less certain than those of other tests because the test is sensitive to the differences between long-term projections of marginal costs and long-term projections of rates, two cost streams that are difficult to quantify with certainty.”
- **RIM useful for:**
 - Comparing programs with highly variable scopes
 - Studying fuel-substitution issues (gas/electric)
 - Program design evaluations

Purposes of a Cost-Effectiveness Definition

- **System-level commitment to DSM**
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Recommendations

- **System-level commitment to DSM**
 - DSM plan target
 - Analyzed in IRP framework
- **Program evaluation**
 - Total Resource Cost Test
 - Societal Variant
- **Measure implementation**
 - Customer rate test (marginal benefit/cost)

Credits

- **Major source for this presentation is:**
 - MSB Energy Associates white papers prepared for Georgia DSM Working Group (April 2008)