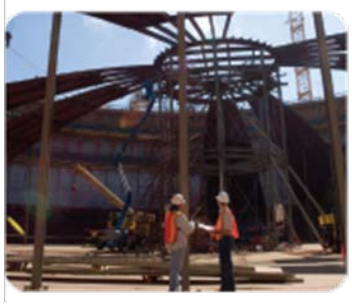




# Ratemaking and Financial Incentives to Facilitate Energy Efficiency and Conservation

**The Institute for Regulatory Policy Studies**
**Illinois State University**
**Springfield, Illinois**

**Russell A. Feingold**
**Vice President**

**May 1, 2008**

# Today's discussion

1. What are the disincentives keeping utilities from pursuing energy efficiency and conservation initiatives?
2. Should financial incentives be offered to utilities so they will actively promote energy efficiency?
3. What are the regulatory policies and ratemaking concepts pertaining to lost revenues, program cost recovery, and financial incentives for energy efficiency?
4. Can a utility's rate design affect the performance of its energy efficiency programs?

# First, what disincentives must be eliminated?

1. The “throughput incentive”
2. The risk of less than full recovery of energy efficiency program costs

*To the Utility*

# And how do you eliminate them?

| Nature of Disincentive | Actions to Eliminate |
|---|---|
| *Throughput incentive* | ●Revenue decoupling concepts |
| *Less than full recovery of energy efficiency program costs* | ●Rate rider<br>●Cost tracker<br>●System benefits charge<br>●“Pre-approval” or stakeholder “buy-in” of expected energy efficiency program performance |

# Utilities have a disincentive to promote energy conservation – the "throughput incentive"

- Traditional utility ratemaking requires that rates be designed to capture most of the approved revenue requirements for fixed costs through volumetric sales of energy.
- A utility can recover these costs fully only if its customers consume a certain level of energy – as determined in its last rate case.
- Basing the utility's rates upon a set level of energy usage creates a significant financial disincentive for it to aggressively promote energy efficiency among its customer base – in other words, the utility has a "*throughput incentive*" to sell more.
- When customers use less energy, the utility's financial performance almost always suffers because recovery of fixed costs is reduced in proportion to the reduction in energy usage.

# Fortunately, there is a growing recognition that the "throughput incentive" must be addressed

- "Modify policies to align utility incentives with the delivery of cost-effective energy efficiency and modify ratemaking practices to promote energy efficiency investments." (*National Action Plan for Energy Efficiency*)
- "Traditional ratemaking approaches have strongly linked a utility's financial health to the volume of electricity or gas sold via the ratemaking structure, creating a disincentive to investment in cost-effective demand-side resources that reduce sales." (*National Action Plan for Energy Efficiency*)
- "Any regulatory disincentives that may exist must be eliminated." (*New Mexico Efficient Use of Energy Act*)
- Other state regulatory bodies are recognizing this concept

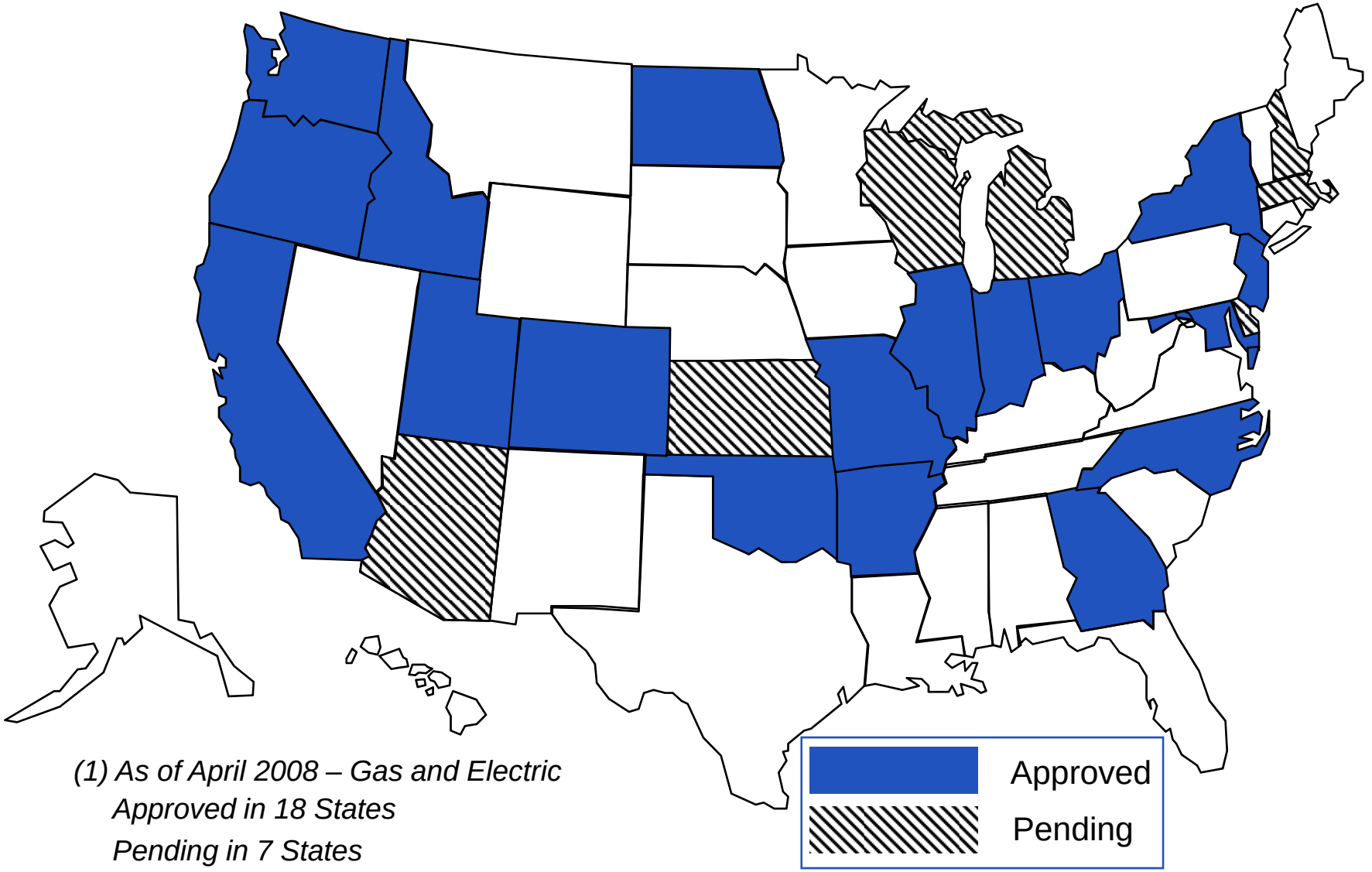
# The solution: break the link between a utility's earnings (revenues) and energy sales through decoupling

- Decoupling is a ratemaking and regulatory tool that is designed to break the link between a utility's earnings and the energy consumption of its customers.

- It removes the inherent disincentive that a utility has under traditional ratemaking to promote energy conservation

- Under a decoupling mechanism, the utility **cannot increase its earnings by increasing its sales volumes** because additional margin revenues are refunded to customers.

# Approved and Pending Revenue Decoupling




*(1) As of April 2008 – Gas and Electric*
*Approved in 18 States*
*Pending in 7 States*

# Besides this “throughput incentive,” other financial concerns can undermine the utilities’ pursuit of energy efficiency initiatives

There are two other areas of financial concern for utilities related to the funding and operation of EE programs:

1. Assuring cost recovery for the direct costs of EE programs
2. Addressing the risk of EE program costs being disallowed and other risks (if energy savings fall short of expectations)

# These concerns also are being addressed by state utility regulators

- Assuring cost recovery for the direct costs of the EE programs
  - ✓ Availability of a tariff rider for energy efficiency that allows for a periodic rate adjustment to account for:

    (1) actual program costs

    (2) the difference between planned program costs (included in base rates) and actual costs.
  - ✓ Included in utility's revenue requirement and base rates
  - ✓ System Benefits Charges
- Addressing the risk of program costs being disallowed and other risks (if energy savings fall short of expectations)
  - ✓ Advanced "buy-in" through multi-stakeholder collaborative efforts

# Now, what about incentives?

- With the elimination of these disincentives, the utility is neutral to the pursuit of energy efficiency initiatives – or is it?
- Unless given the opportunity to profit from energy efficient investment that is intended to substitute for capital investment, there is a clear financial incentive to prefer investment in supply-side assets – since they contribute to enhanced shareholder value.
- How do you make energy efficiency a profitable undertaking as opposed to simply a breakeven business initiative?

# In some cases, regulatory incentives are offered to utilities to actively promote energy efficiency

- Providing an opportunity for shareholder earnings from superior performance in providing programs and services for customer energy efficiency
  - ✓ Rate of return adders (IN, KS, MT, NV)
  - ✓ Performance target incentives (CT, MA, NV, RI)
  - ✓ Shared savings incentives (AZ, CA, GA,HI, MN, NH, VT)

# Examples of EE performance incentives

| State | Type of Incentive | Basis for Performance Metric | Amount of Compensation |
|---|---|---|---|
| AZ | Shared savings | Share of net benefits | Up to 10% of EE program budget |
| CA | Shared savings | Savings goals | Between 9% and 12% of net benefits – penalties if performance falls below 65% of target |
| CT | Performance target | Savings and other program goals | 1% to 8% of program costs (1% for 70% of target, 5% for target, 8% for 130% of target) |
| KS | Rate of return adder | To be determined (*generic proceeding ongoing*) | Extra 0.5-2% return on equity for EE investments |
| MA | Performance target | Multi-factor performance targets: savings, value, and performance | 5% of program costs |

# Examples of EE performance incentives (continued)

| State | Type of Incentive | Basis for Performance Metric | Amount of Compensation |
|---|---|---|---|
| MN | Shared savings | Energy savings goals | Up to 30% of program costs for reaching 150% of program targets |
| MT | Rate of return adder | Program spending goals | Up to an extra 2% return on equity for EE investments |
| NV | Rate of return adder | Program spending goals | Up to an extra 5% return on equity for EE investments |
| NH | Shared savings | Savings and cost-effectiveness goals | 8-12% of program budgets |

# Examples of EE performance incentives (continued)

| State | Type of Incentive | Basis for Performance Metric | Amount of Compensation |
|---|---|---|---|
| RI | Specific financial reward | Savings and cost-effectiveness goals | 5.5% of program costs |
| VT | Non-utility specific financial reward | Multi-factor performance targets: program results, market effects, and activity milestones | About 2% of total contract |

# The utility incentive model of the future?

Duke Energy's "Save-a-Watt" proposal in North Carolina (*filed in May 2007*)

- Under the proposal, Duke is compensated similarly for meeting customer demand – whether through saving a watt or producing a watt.
- To compensate and encourage the utility to produce the required production capacity by "saving" watts, Duke has requested approval to recover the amortization of and a return on 90% of the power plant it no longer has to build.
- Duke is required to spend 1% of its retail revenues – or about $35 million on energy efficiency programs.

# But let's not forget about pricing to the customer

- Are a utility's current prices providing customers with appropriate price signals?
- If not, are the cost/benefit analyses of energy efficiency programs skewed as a result?
- What changes in rate design could complement the available energy efficiency measures?

# Rate design options can make a difference

- A utility's rates should properly reflect its costs
  - ✓ The recognition of fixed costs
  - ✓ Embedded costs or marginal/incremental costs?
  - ✓ Seasonal or other time-differentiated costs?
- If a utility's costs (e.g., its distribution system costs) do not change with a decline in energy usage, its rates should not change or else the customer will be provided with an overstated benefit from its energy efficiency actions
- Customer response to a particular rate design can vary considerably for a number of different varied reasons

# Rate design options can make a difference (continued)

- **Time-of-Use ("TOU")** - a rate structure with different prices for usage during different blocks of time, usually defined for a 24-hour day.
- **Real-Time Pricing ("RTP")** – a rate structure in which the price for electricity typically fluctuates hourly reflecting changes in the wholesale price of electricity (typically known to customers on a day-ahead or hour-ahead basis)
- **Critical Peak Pricing ("CPP")** – CPP rates include a pre-specified high rate for usage designated by the utility to be a critical peak period.
- **Inverted Block Rates -** Per unit prices that increase for each successive block of energy consumed.
- **Seasonal Rates** – a rate structure in which the prices are differentiated by season.
- **Rate Discounts for Reduced Energy Use** – lower effective rates if customer can reduce energy consumption below a pre-defined threshold level.

# Concluding remarks

- Removal of the disincentives utilities have to pursue energy efficiency initiatives is only the first step in the process – but an important one
- The next step in promoting energy efficiency is to align the interests of the utility's shareholders with its customers through financial incentives
- Financial incentives for energy efficiency can place a utility's demand-side resources on an equal footing with its supply-side resources
- A utility's rate design can complement the energy efficiency programs offered to its customers, and make them more cost-effective