



Aligning Utility Incentives with Energy Efficiency Investment

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Our Agenda

- ▶ Why is everybody talking about this?
- ▶ What is everybody talking about?
- ▶ A quick trip through the options.
- ▶ Finding an approach that works.

National Action Plan for Energy Efficiency Addresses Utility Barriers

- Released on July 31, 2006 at the National Association of Regulatory Utility Commissioners meeting
- Goal: To create a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations
- Over 50 member public-private Leadership Group developed five recommendations and commits to take action
- Additional commitments to energy efficiency – exceeds 90 organizations

National Action Plan for Energy Efficiency Recommendations

1. Recognize energy efficiency as a high-priority energy resource.
2. Make a strong, long-term commitment to implement cost-effective energy efficiency as a resource.
3. Broadly communicate the benefits of and opportunities for energy efficiency.
4. Provide sufficient, timely and stable program funding to deliver energy efficiency where cost-effective.
5. Modify policies to align utility incentives with the delivery of cost-effective energy efficiency and modify ratemaking practices to promote energy efficiency investments.

Resources for States, Utilities and Stakeholders

■ Guides and Papers

- National Action Plan for Energy Efficiency Report
- *****Aligning Utility Incentives with Energy Efficiency Investment**
- Resource Planning with Energy Efficiency
- Conducting Potential Studies for Cost-Effective Energy Efficiency
- Model Energy Efficiency Program Evaluation
- National Action Plan Vision for 2025

■ Outreach Material and Tools

- Energy Efficiency Benefits Calculator
- Communications Kit
- Resource and sample docket database
- Educational Briefings

■ Fact Sheets

- Building Codes and Energy Efficiency
- Consumer Energy Efficiency

■ Regional Implementation Meetings

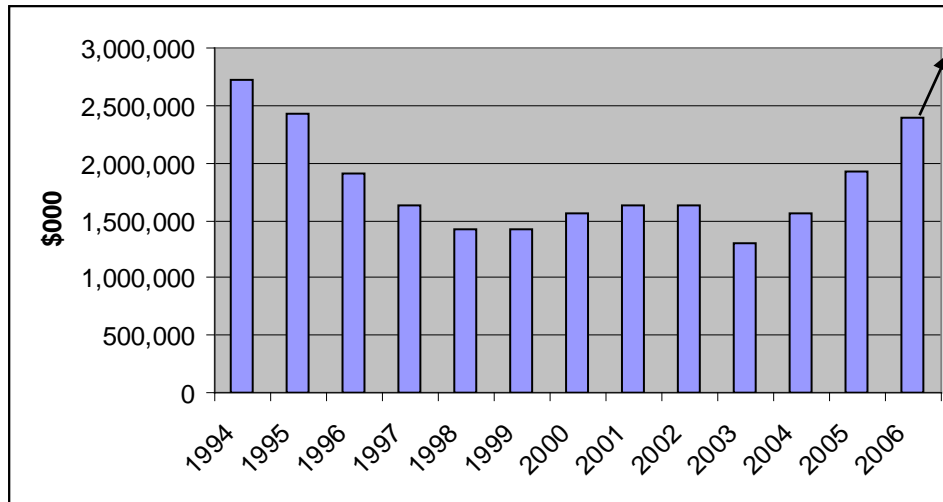
- Policy tracking tables
- Presentations and meeting summaries

■ Sector Collaborative on Energy Efficiency

- Presentations from June 27 and 28 Meeting
- Background Paper on Utility Data Availability
- Energy Consumption Profiles for participating sectors

Why are we talking?

Annual Electric Utility Spending on Energy Efficiency



Will eclipse \$3B within several years (IL, MO, MD, OH, MI, CA, NV, TX, NM?)

And the problem is....?

Expenses
drop right to
the bottom
line



Margin can be
lost on every
kWh saved by
EE



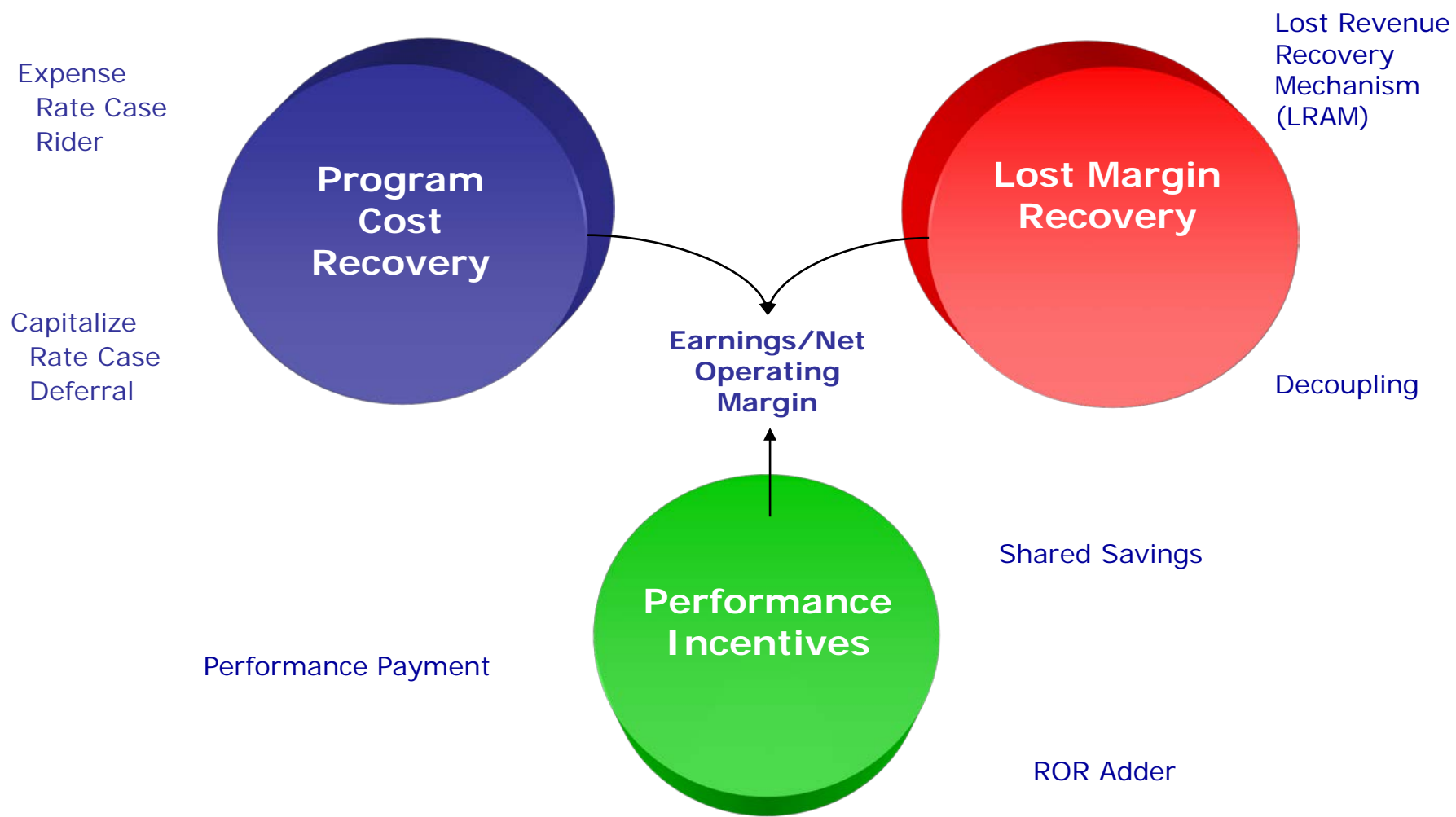
Earnings/Net
Operating
Margin

It is the direction and
magnitude of this
effect that ultimately
determines whether a
utility's financial
interest is aligned
with a policy interest
in promoting utility
investment in EE.



Even if costs and
margins are
recovered,
shareholders are
better off with a new
power plant

Policy Options: What are we talking about?



Program Cost Recovery

■ **EE spending has a \$ for \$ impact on earnings. Recovery is basic precondition.**

■ **Basic options**

- Expensing
 - Riders with true-ups
 - Rate case – base rates
- Capitalization
 - Rate case – rate base
 - Escrow accounting/deferred accounts

■ **What matters**

- Timing of recovery (and matching spending to recovery)
- Risk of (non) recovery
- Rate impacts v total cost
- ROE and depreciation rate

Expensing v. Capitalization

End-of-year	Annual Energy Efficiency Expenditure	Cumulative Energy Efficiency Expenditure	Depreciation	Unamortized Balance	Return on Unrecovered Investment	Incremental Revenue Requirements
1	1,000,000	1,000,000	\$100,000	\$900,000	\$90,000	\$190,000
2	1,000,000	2,000,000	\$200,000	\$1,700,000	\$170,000	\$370,000
3	1,000,000	3,000,000	\$300,000	\$2,400,000	\$240,000	\$540,000
4	1,000,000	4,000,000	\$400,000	\$3,000,000	\$300,000	\$700,000
5	1,000,000	5,000,000	\$500,000	\$3,500,000	\$350,000	\$850,000
6			\$500,000	\$3,000,000	\$300,000	\$800,000
7			\$500,000	\$2,500,000	\$250,000	\$750,000
8			\$500,000	\$2,000,000	\$200,000	\$700,000
9			\$500,000	\$1,500,000	\$150,000	\$650,000
10			\$500,000	\$1,000,000	\$100,000	\$600,000
11			\$400,000	\$600,000	\$60,000	\$460,000
12			\$300,000	\$300,000	\$30,000	\$330,000
13			\$200,000	\$100,000	\$10,000	\$210,000
14			\$100,000	\$0	\$0	\$100,000
15/Total	5,000,000		\$5,000,000		\$2,250,000	\$7,250,000

How can you lose a margin?

- ▶ **Conventional cost allocation assigns some (and usually most) fixed costs to volumetric charges.**
- ▶ **These charges are set based on an estimate of expected volume.**
- ▶ **All else being equal, if volume is lower than the level estimated, insufficient revenue is earned to cover all fixed costs.**
- ▶ **Depreciation and interest get covered first, so any shortfall hits the margin**

Lost Margins (aka, throughput incentive)

	Baseline (rate setting proceeding)	Case 1 (2% reduction in sales)	Case 2 (2% increase in sales)
1. Variable Costs	\$1,000,000	\$980,000	\$1,020,000
2. Depreciation + other fixed costs	\$500,000	\$500,000	\$500,000
3. Capital Cost	\$5,000,000	\$5,000,000	\$5,000,000
4. Debt	\$3,000,000	\$3,000,000	\$3,000,000
5. Interest (@10%)	\$300,000	\$300,000	\$300,000
6. Equity	\$2,000,000	\$2,000,000	\$2,000,000
7. Rate of Return on Equity (ROE@ 10%)	10%	10%	10%
8. Authorized Earnings	\$200,000	\$200,000	\$200,000
9. Revenue Requirement (1+2+5+8)	\$2,000,000	\$1,980,000	\$2,020,000
10. Sales (kWh)	20,000,000	19,600,000	20,400,000
11. Average Price (9÷10)	\$0.10	\$0.101	\$0.99
12. Earned Revenue (11×10)	\$2,000,000	\$1,960,000	\$2,040,000
13. Revenue Difference (12-9)	0	-\$40,000	+\$40,000
14. % of Authorized Earnings (13÷8)	0	-20%	+20%

Addressing the Margin

■ **Lost Margin Recovery Mechanism (LRAM)**

- Estimate the sales reduction associated with EE
- Calculate the associated margin under-recovery
- Periodic true-ups
- Can be complicated to determine what is actually lost

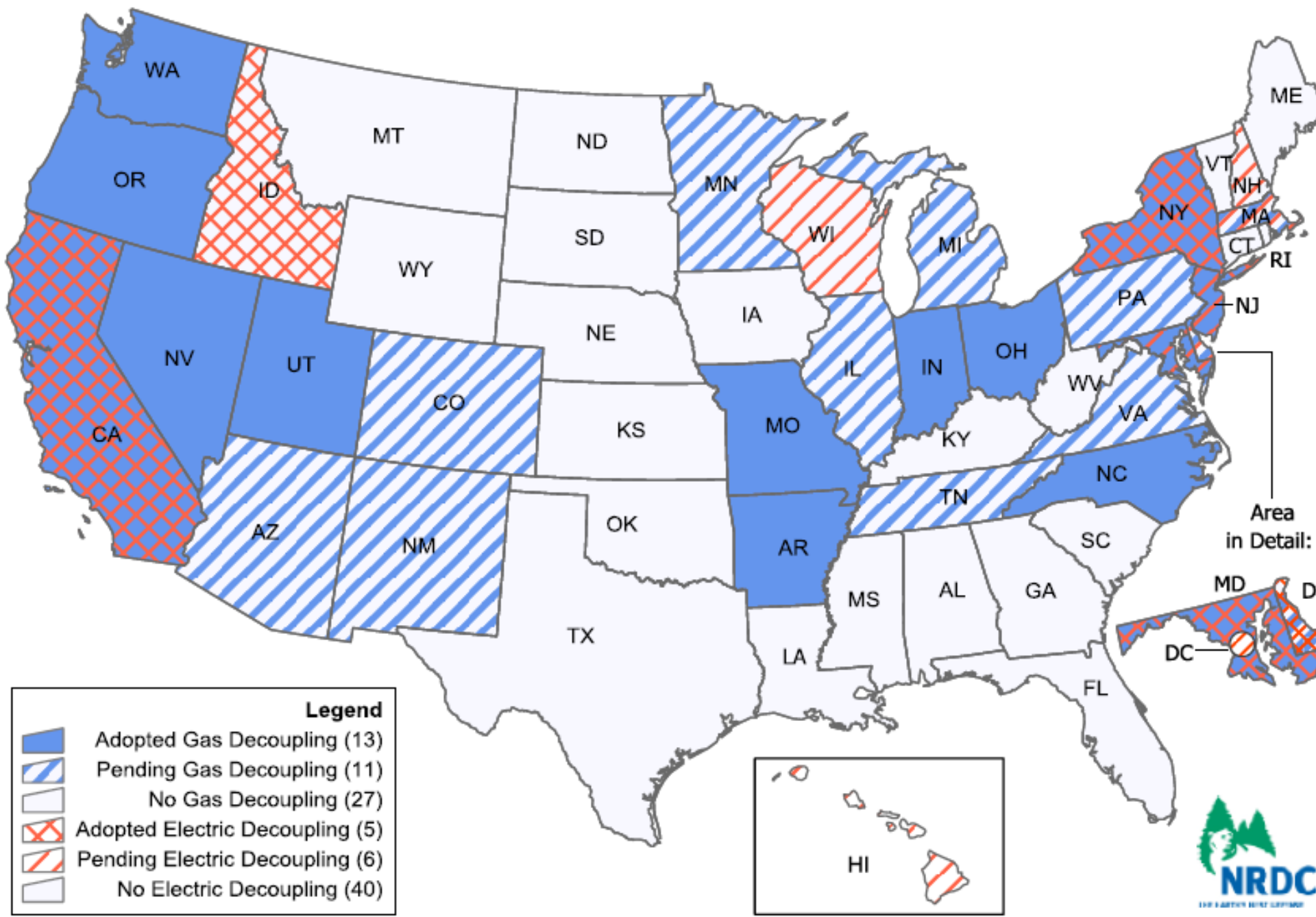
■ **Decoupling**

- Many flavors, but basically, calculate allowed revenue or revenue per customer and allow utility to periodically true-up to this level based on changes in sales
- Depending on the details, the adjustments can move prices higher or lower
- Not simply about protecting margins; Very much about removing the incentive to promote sales.

Yes, this has issues

- **LRAM can be complex; places a premium on EM&V which itself is a constant source of contention**
- **Decoupling can be simpler, however . . .**
 - The more adjustments that are made the more complex a decoupling mechanism can become
- **!Decoupling per se does not shift risk to consumers; very few would argue for complete decoupling**
- **Decoupling can introduce modest rate volatility. In reality the volatility associated with EE programs will be lower than with weather, fuel adjustment clauses, etc**
- **Yes, rate design can help alleviate the problem, but it is not likely to be THE solution.**

Gas and Electric Decoupling in the US



Performance Incentives

- **Addressing cost recovery and lost margins only eliminates two barriers; it will not put EE on financial par with steel in the ground.**
- **Basic options:**
 - Rate basing
 - Enhanced ROE (Nevada)
 - Performance Target Incentives
 - CT “performance management fees” for meeting certain savings and other performance targets
 - MA utilities earn a share of net savings for surpassing a range of performance targets
 - Shared Savings
 - CA utilities receive various shares of net benefits for achieving various levels of kWh, kW and therm savings (also pay penalties for under-performing relative to targets).

A Partial Landscape

State	Type of Utility Performance Incentive Mechanism	Details
AZ	Shared Savings	Share of Net Economic Benefits up to 10 percent of total DSM spending.
CT	Performance Target Savings and other programs goals	Management fee of 1 to 8 percent of program costs (before tax) for meeting or exceeding predetermined targets. One percent incentive is given to meet at least 70 percent of the target, 5 percent for meeting the target, and 8 percent for 130 percent of the target.
GA	Shared Savings	15 percent of the net benefits of the Power Credit Single Family Home program.
HI	Shared Savings	Hawaiian Electric must meet four energy efficiency targets to be eligible for incentives calculated based on net system benefits up to 5 percent.
IN	Shared Savings/Rate of Return (utility-specific)	Southern Indiana Gas and Electric Company may earn up to 2 percent added ROE on its DSM investments if performance targets are met with one percent penalty otherwise.
KS	Rate of Return Incentives	2 percent additional ROE for energy efficiency investments possible.
MA	Performance Target Multi-Factor Performance Targets, Savings, Value, and Performance	5 percent of program costs are given to the distribution utilities if savings targets are met on a program-by-program basis.
MN	Shared Savings Energy Savings Goal	Specific share of net benefits based on cost-effectiveness test is given back to the utilities. At 150 percent of savings target, 30 percent of the conservation expenditure budget can be earned.
MT	Rate of Return Incentives	Two percent added ROE on capitalized demand response programs possible.
NV	Rate of Return Incentives	Five percent additional ROE for energy efficiency investments.
NH	Shared Savings Savings and Cost- Effectiveness Goals	Performance incentive of up to 8 to 12 percent of total program budgets for meeting cost-effectiveness and savings goals.
RI	Performance Targets Savings and Cost- Effectiveness Goals	Five performance-based metrics and savings targets by sector. Incentives from at least 60 percent of savings target up to 125 percent.
SC	N/A	Utility-specific incentives for DSM programs allowed.

A More Expansive Landscape

		States
Direct Cost Recovery		
	Rate Case	Arizona, California, Colorado, District of Columbia, Hawaii, Idaho, Illinois, Indiana, Iowa, Minnesota, Missouri, Montana, Nevada, New Mexico, Pennsylvania, Texas, Utah, Wisconsin
	SBC	Arizona, California, Connecticut, Maine, Massachusetts, Montana, New Hampshire, New Jersey, New York, Ohio, Oregon, Rhode Island, Vermont, Wisconsin
	Tariff Rider/ surcharge	Florida, Idaho, Iowa, Kentucky, Ohio, Utah, Washington
Lost Margin Recovery		
	Decoupling	<u>Electric</u> : California, Idaho, New York, Rhode Island, Minnesota, Maryland. <u>Proposed Electric</u> : Delaware, DC, New Jersey. <u>Gas</u> : California, Indiana, Maryland, Missouri, Nevada, New Jersey, New York, North Carolina, Ohio, Oregon, Rhode Island, Utah. <u>Proposed Gas</u> : Arkansas, Arizona, Colorado, Delaware, Illinois, Michigan, Minnesota, Pennsylvania, Tennessee, Virginia, Wisconsin
	LRAM	Connecticut, Indiana, Kentucky
Performance Incentives		
		Arizona, California, Connecticut, Hawaii, Idaho, Indiana, Kansas, Kentucky, Massachusetts, Minnesota, Montana, Nevada, New Hampshire, Rhode Island, Vermont.

Preliminary Observations

- ▶ **Significant levels of investment (e.g., CT, VT, NA, CA) may require:**
 - That all three financial effects are addressed
 - 3rd party administration may substitute to some degree
- ▶ **But, what matters ultimately is the impact on earnings**
 - Can get there in a variety of ways.
- ▶ **Policies don't operate in isolation – *influenced by:***
 - General ratemaking policy
 - Utility resource acquisition policy
 - Climate policy
 - Market structure policy
- ▶ **Important differences exist between**
 - Investor-owned and publics/coops;
 - Electric and gas

More Preliminary Observations

- Policies need to address not only tangible costs, but also utilities' perceptions of regulatory risk – *policy stability is important.*
- Consistent policy with net positive impacts on earnings can play a major role in changing utility resource acquisition culture.
 - Policies that leave a utility financially neutral (no reduction in earnings) will produce indifference to EE.
 - Aligning IOU interests with a policy goal of aggressive investment in EE may require an ability to earn performance incentives.
 - Climate legislation will likely change the utility benefit-cost calculus for EE

Challenging Issues

► Recovery of margins

- Are margins guaranteed?
- Do customers benefit?
- What is the proper utility business model?

► Performance Incentives

- Should utilities be doing this anyway?
- Could someone else do the job less expensively?

Getting Started

- Set cost recovery and incentive policy to consider the direction of the market's evolution.
- Apply cost recovery mechanisms and utility performance incentives in a broad policy context.
- Test prospective policies.
- Policy rules must be clear.
- Collaboration has value.
- Flexibility is essential.
- Culture matters.

For More Information

www.epa.gov/eeactionplan

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