Regulatory and Ratemaking Issues Associated with Cost and Revenue Tracker Mechanisms

National Association of Regulatory Utility Commissioners, Advanced Training Workshop

Michigan State University, Institute of Public Utilities
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Overview of Topics

- Definition of Tracker Mechanisms
- Commonly-Cited Rationales For Trackers
- Recent Examples
- Tracker Shortcomings
- Questions to Ask in Examining Tracker Proposals
- Examples (Decoupling, Capital Tracker, Inflation Tracker, WNA)
- Conclusions

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Tracker Definitions

- Mechanisms that remove cost and/or revenue recovery from base rates to a separate rider or tariff.
- Can be for the collection of new costs not included in base rates or true-ups of revenues or expense items from levels that differ from the test year.
- Recovery typically periodic and more frequent than rate cases.
- While mechanisms can include surcharges and credits they should not be automatically considered “symmetrical.”
- Mechanisms originally developed with fuel-cost recovery, but have expanded to a variety of other sales, capital and expense-related changes.

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Tracker Mechanism Examples

Tracker Mechanism	Recovery Type	Purpose
Asset Replacement Riders	Capital	Replace aging or inferior assets.
Inflation Riders	Expense	Inflate costs to match general inflation or other measure.
Asset Development Riders	Capital	Facilitate preferenced assets like baseload generation, smart meters.
Energy Efficiency Riders	Expense	Recover energy efficiency expenses as incurred.
Renewable Energy Riders	Capital	Recovery renewable energy development costs, rebates, and/or PPAs.
Environmental Cost Riders	Capital/Expense	Recovery of capital investment or air emission credits.
Weather Normalization Clauses	Revenue	Recovery of changes in sales due to weather.
Revenue Decoupling	Revenue	Recovery of changes in sales due to other factors.

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Commonly-Cited Rationales for Trackers

Rationale	Driver
Volatile and unknown cost changes.	Recent increases in commodity costs and inflation.
Remove disincentives to purse public policy goals.	Energy efficiency, renewables, fuel diversity.
Required by “Wall Street.”	Capital crisis/recession.
Required to ensure recovery of revenue requirement.	Changes in UPC, climate change, other “exogenous factors.”
Reduce rate cases.	Increase in recent number of rate cases.

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Selected Examples

Tracker Mechanism	States	Utilities
Asset Replacement Riders	AR, KS, MA, NJ, OR	Centerpoint Energy, Atmos, Bay State Gas Company, NJ Natural Gas, Elizabethtown Gas, Northwest Natural
Inflation Riders	MA (proposed), NE (proposed), CA	National Grid (proposed), SourceGas (proposed), Pacific Gas & Electric
Asset Development Riders	FL, IA, MD (proposed)	FPL (nuclear), PEF (nuclear), IA (coal, allowed, not used), MD (smart grid)
Energy Efficiency Riders	FL, UT, NJ, CA	FPL, Questar, PSE&G, JCP&L, Pacific Gas & Electric, SoCal Gas
Renewable Energy Riders	NJ, MA, MI, VA	PSE&G, JCP&L, National Grid, Detroit Edison, Consumers Energy, VA Electric
Environmental Cost Riders	LA., GA, KS, MS	Entergy Gulf States, Georgia Power, Westar, Mississippi Power
Weather Normalization Clauses	AR, IN, KS, MD, NY, TN, UT	Centerpoint, Indiana Gas, Atmos, Aquila, Chesapeake, ConEd, NYSE&G, Rochester, Piedmont, Questar
Revenue Decoupling	CO, IL, MD, NY, NC, OR, WA	PS Colorado, Peoples Gas, Washington Gas, ConEd, Avista, NW Natural

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Tracker Expansion

- While some of these mechanisms are somewhat older in implementation (e.g., WNA, revenue decoupling), others are relatively new (asset development, inflation riders), and others are being modified and expanded (energy efficiency, renewables, environmental cost).
- Another recent theme in tracker proposals is the “multiple proposal” approach being pursued by utilities in various regulatory filings (numerous as opposed to individual tracker proposals).
- Increased adoption by some state commissions has led some utilities to refer to these mechanisms as the “new traditional regulation” or “new chapter” in utility regulation.

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Tracker Shortcomings

Practice/Theory	Traditional Approach	Tracker Approach
Cost recovery and regulatory lag under “regulatory compact.”	Utilities have traditionally been tasked with proposing projects, developing projects, and incurring the cost to develop projects. Afterwards, the utility must prove that the investment is used and useful and developed a reasonable cost.	Utilities would incur costs for projects often no defined ex ante, and recover the costs of these projects, as they are incurred, in rates. Afterwards, regulators and other parties would be required to show that the investments were not needed and the costs were unreasonable.
Asymmetric information in utility regulation and performance-based regulation.	Regulated firms know their cost structures better than regulators. Thus, best policy is to use regulatory lag, or incentive regulation (benchmarking) to drive utilities to efficient outcomes.	Regulators can easily determine the reasonableness of all capital investments and their costs within a matter of months and can comfortably adjust rates accordingly.

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Risk Shifting

Risk Type	Risk Shifting Perceptions	Potential Consequence
Regulatory Risk	Ratepayers have higher burden to prove investments are imprudent rather than utilities proving that they are prudent.	Taken away, or significantly reduced the power of a regulatory disallowance that is long recognized as a powerful regulatory tool in minimizing cost and expense inefficiencies and offsetting potential “A-J” or “X-inefficient” outcomes.
Performance Risk	Ratepayers have higher burden to prove that tracker objectives were not met on sometimes illusive (qualitative) cost and investment decisions.	Effectively paying for a service before it has been rendered.
Sales Risk	Ratepayers will make utilities whole for any change in sales regardless of reason (economy, price, weather).	Decoupling revenues from sales is likely to lead to a decoupling of costs from revenues in a regulated cost-based industry.

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Hard Questions to Ask in Evaluating Tracker Proposals

- Is the mechanism allowed by law? (revenue neutral?)
- Is the mechanism well-defined?
- Is the mechanism needed and does it address the problem?
- Are there any performance standards, reciprocity provisions, or other reflections of changes in risk?
- Are there any ratepayer protection mechanisms? (caps, bounds, triggers)
- Are there any alternative approaches that are better suited to addressing the problem?

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Revenue Decoupling

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Arguments In Favor of Revenue Neutrality

- Aligns utility incentives with energy efficiency.
- Assists utility in earning its authorized rate of return that is challenged by the decreasing use per customer problem (gas).
- Easier for customers to understand and reduces bill volatility.
- Reduces regulatory costs and the need for frequent rate cases.

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Common Types of Revenue Neutrality Programs

- Straight-Fixed Variable Rate Design: eliminates all variable distribution charges and DNG costs are recovered through a fixed delivery services charge or an increase in the fixed customer charge alone (gas LDCs).

- Sales-Revenue Decoupling: separates revenue recovery from sales (sets annual revenues to a “per-customer” target.) Can be done on a full or partial basis.

- Sales-Margin Decoupling: separates margin recovery from sales (sets margin per customer target). Can also be done on a full or partial basis.

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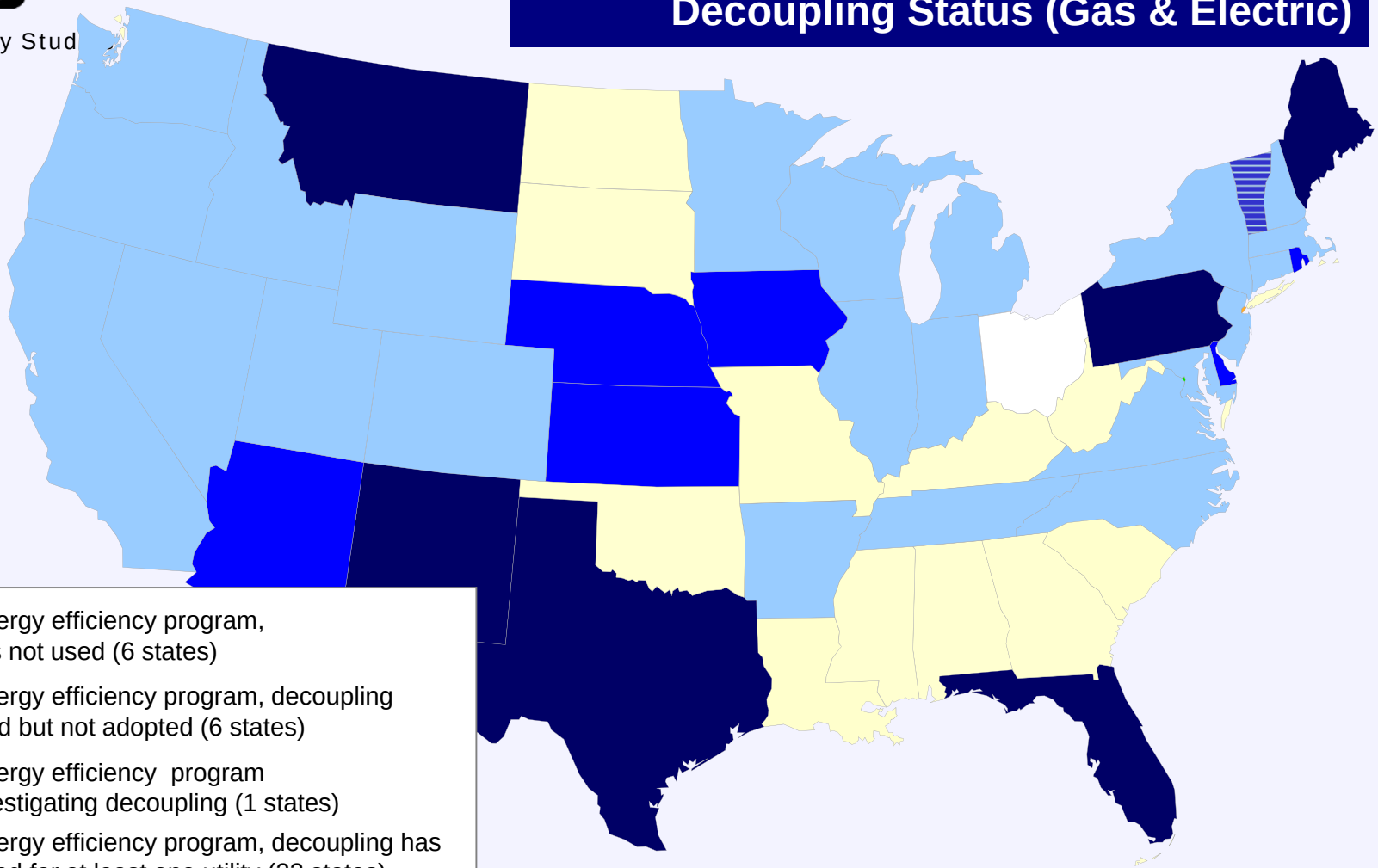
States with Energy Efficiency Programs – Decoupling Status (Gas & Electric)



- State has energy efficiency program, decoupling is not used (6 states)
- State has energy efficiency program, decoupling was proposed but not adopted (6 states)
- State has energy efficiency program currently investigating decoupling (1 states)
- State has energy efficiency program, decoupling has been approved for at least one utility (23 states)
- State has no energy efficiency program, decoupling has been approved for at least one utility (1state)

Note: In Connecticut, the electric utilities do not have decoupling, but two natural gas LDCs have a partial decoupling mechanism in connection with their energy efficiency programs for low-income customers (a conservation adjustment mechanism). Washington has utilities with decoupling, but rejected the most recent utility proposal (January 2007). In Michigan, revenue decoupling was proposed by the Michigan Staff but opposed by the Michigan AG. The MPSC approved a stipulation that excluded revenue decoupling . In Kansas, revenue decoupling was proposed by Aquila. The parties involved agreed to a stipulation that excluded revenue decoupling while the Commission investigates it further in a general docket.

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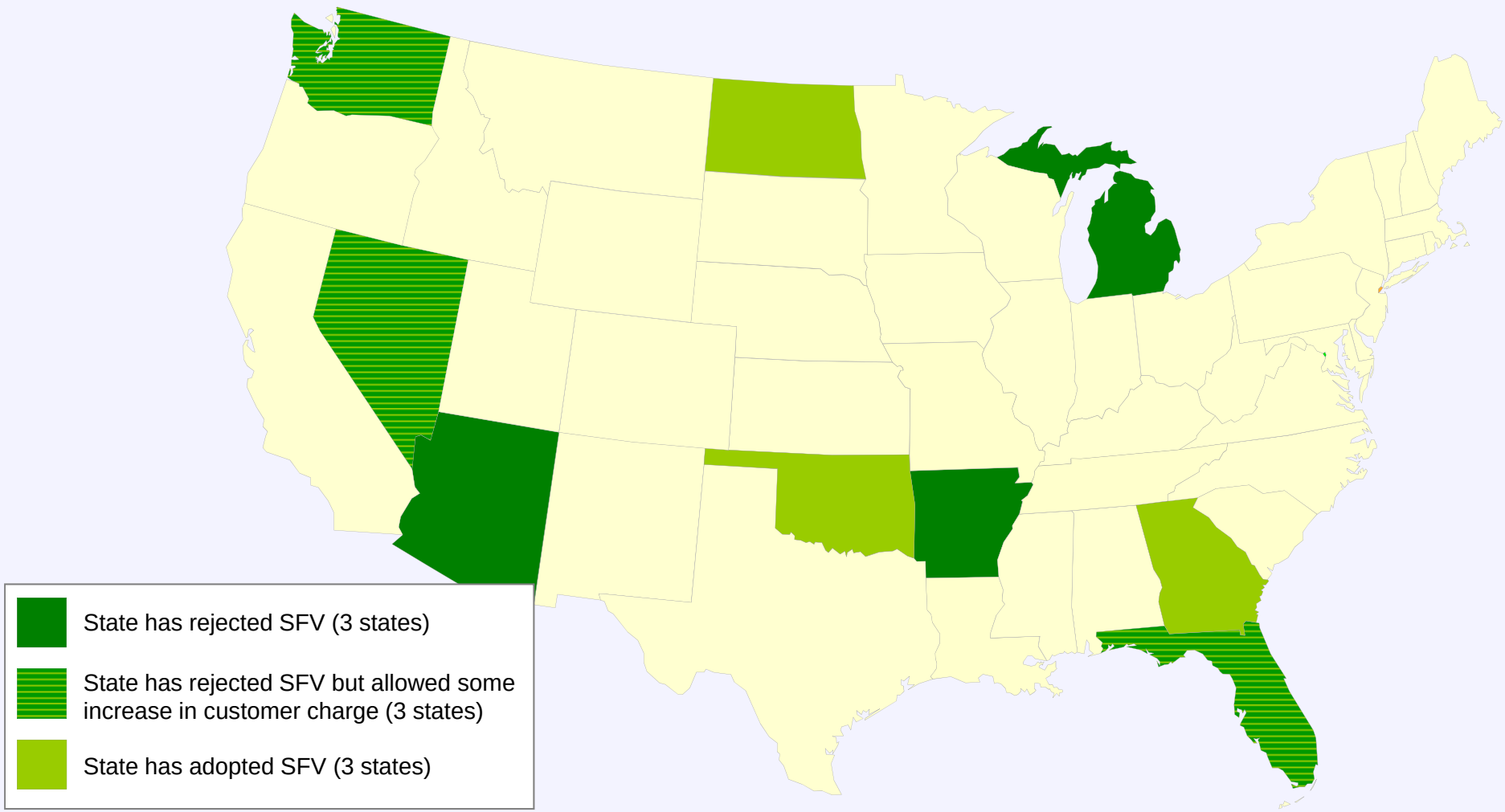
States that have Considered SFV



Note: In Michigan, SFV was proposed by SEMCO Energy but opposed by the Michigan AG. The MPSC approved a stipulation that excluded SFV.

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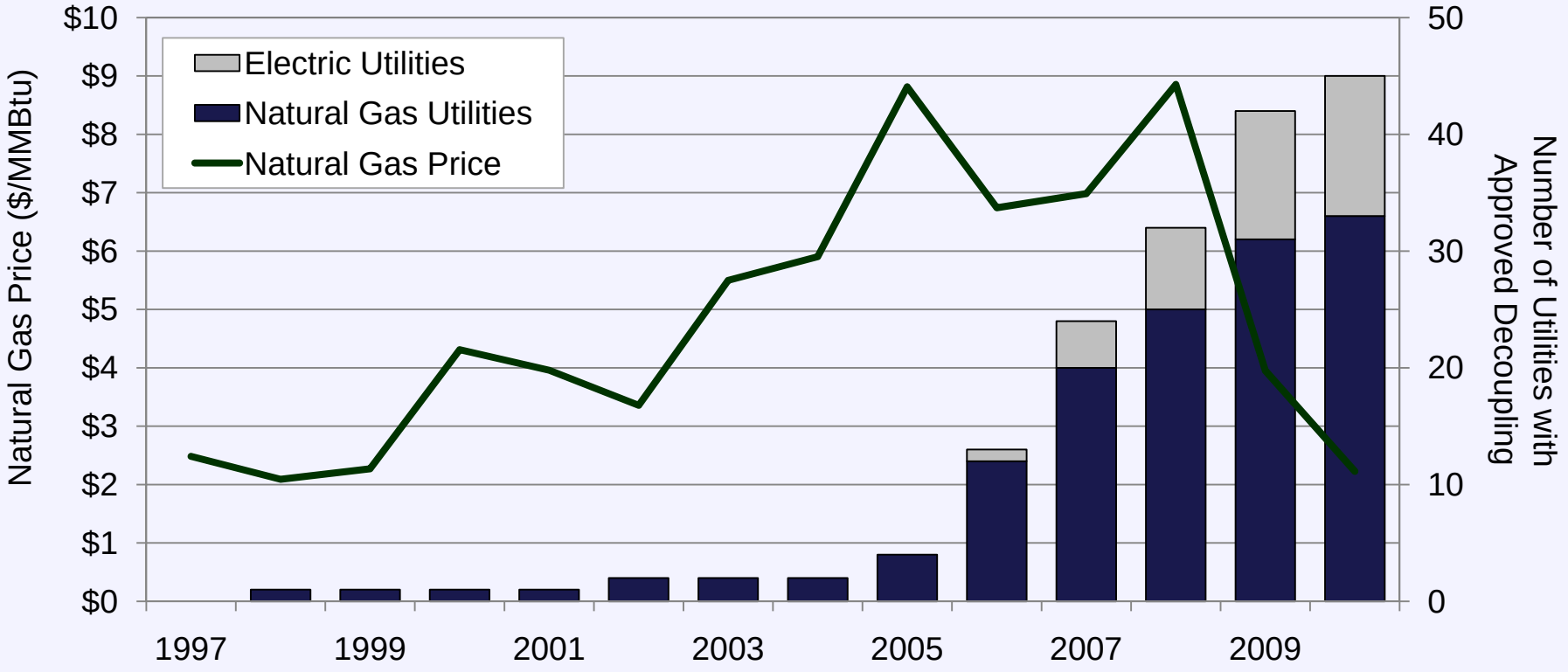
Natural Gas Price and Approved Decoupling



Source: Federal Reserve Bank of St. Louis.

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Energy Efficiency Resource Standards

ID: Energy Plan sets conservation – DR and EE as priority resources

WA: pursue all cost effective conservation: ~10% by 2025

OR: IOU 2008 goals 34 MW; administered by Energy Trust OR

CA: 8% energy savings; 4,885 MW peak reduction by 2013 (from '04)

NV: EE up to 25% of RPS: ~5% electric reduction by 2015

UT: EE earns incentive credits in RE goal

CO:11.5% energy savings by 2020 ~ 3,669 GWh (from '08)

NM: 10% retail electric sales savings by 2020 (from '05)

NE: Interim Energy Plan stresses multi-sector EE improvements

KS: Voluntary utility programs

OK: PSC approved quick-start DR utility EE and DR programs

TX: 20% of load growth by 2010, using average growth rate of prior 5 years

HI: 30% electricity reduction: ~4,300 GWh by 2030 (from '09)

MI: 1% annual energy savings from prior year's sales

MN: 1.5% annual savings based on prior 3-years average, to 2015

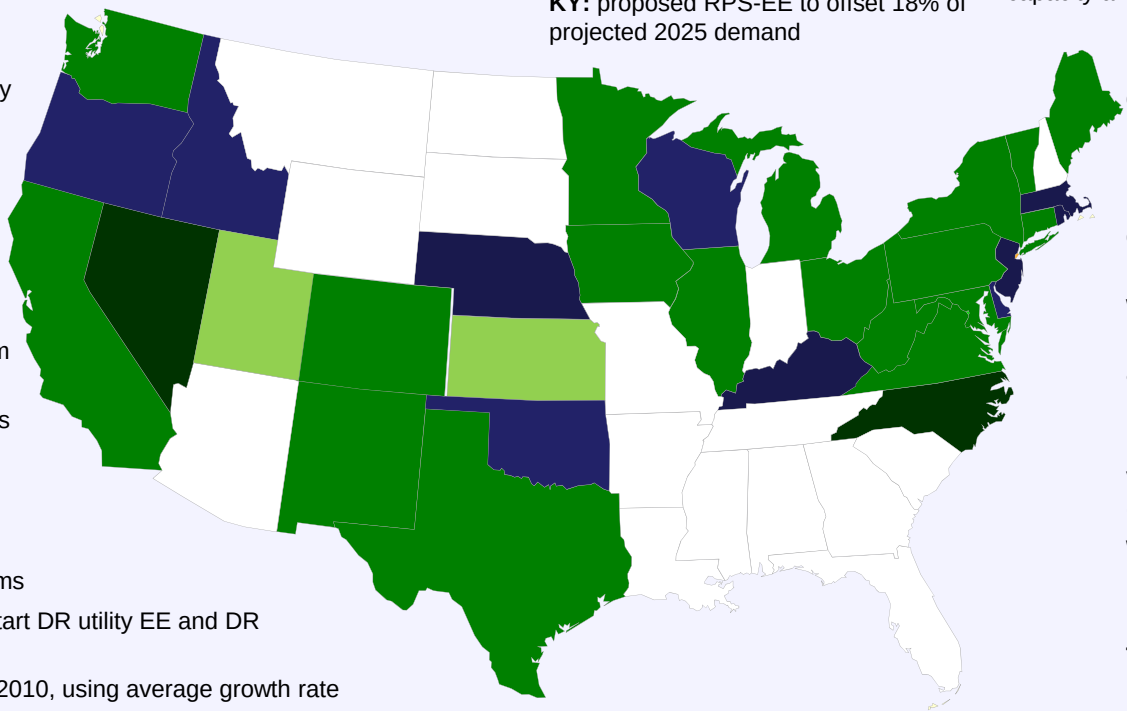
IA: 5.4% energy savings by 2020 ~ 1.5% annual

IL: reduce energy use 2% by 2015 and peak 0.1% from prior year

IN: 2% energy savings by 2019

OH: 22% energy savings by 2025 (from '09); reduce peak 8% by 2018

KY: proposed RPS-EE to offset 18% of projected 2025 demand



ME: 30% energy savings; 100 MW peak electric reduction by 2020

VT: 11% energy reductions by 2011 (2% annual) administered by Efficiency VT

MA: 25% of electric load from DSR, EE by 2020: capacity and energy

NY: reduce electric use 15% by 2015 from levels projected in 2008

CT:4% energy savings (1.5% annual) and 10% peak reduction by 2010 (from '07)

RI: reduce 10% of 2006 sales by 2022

NJ: BPU proceeding to reduce consumption, peak

DE: Sustainable Energy Utility charged with 30% energy reduction by 2015

PA: reduce use 3%; peak 4.5% by 2013 as % of 2009-10 sales

MD: reduce per capita electricity use and peak 15% by 2015 (from '07)

VA: reduce electric use 10% by 2022 (from '06)

WV: EE & DR earn one credit for each MWh conserved in the 25% by 2025

NC: EE to meet up to 25% of RPS by 2011

TVA: reduce energy use 25% and cut peak 1,400 MW by 2012 (from '08)

- EE as part of an RPS law or rule
- EERS by regulation or law (stand-alone)
- Voluntary standards (in or out of RPS)
- EE pending regulations, proposed or studied
- Other EE entity, rule or procurement order

Note: As of July 8, 2009

Source: Federal Energy Regulatory Commission.

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Electric DSM

	Average Rate to Retail Customers		Total EE Spending		Total EE Spending as a Percent of Total Revenue*		Total State Annual EE Savings		Total State EE Savings as a Percent of Total Sales	
	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007
	(cents/kWh)		--- (thousand $) ---		--- (%) ---		--- (MWh) ---		--- (%) ---	
Connecticut	18.46	16.45	$ 121,576	$ 115,110	3.0%	0.2%	3,184,325	5,922,914	14.4%	1.8%
Massachusetts	16.80	15.16	$ 62,269	$ 62,856	2.1%	0.3%	2,302,377	5,545,262	12.8%	5.1%
California	12.45	12.80	$ 1,255,099	$ 971,720	4.3%	2.1%	24,176,432	41,513,504	10.3%	11.1%
Florida	10.74	10.33	$ 296,489	$ 261,164	1.2%	0.8%	17,913,221	13,737,098	7.9%	4.8%
Rhode Island	16.55	13.12	$ 15,257	$ 17,981	1.4%	1.6%	527,522	1,350,110	7.9%	19.6%
Hawaii	29.20	21.29	$ 32,215	$ 22,143	1.1%	0.7%	669,546	1,072,462	6.4%	10.1%
New Hampshire	14.59	13.98	$ 21,616	$ 20,082	1.4%	1.2%	625,539	1,137,462	5.7%	10.1%
Wisconsin	9.00	8.48	$ 152,728	$ 123,609	1.4%	0.7%	6,388,231	13,420,154	5.3%	7.2%
Washington	6.55	6.37	$ 117,013	$ 82,547	1.7%	0.9%	4,942,437	8,353,842	4.8%	6.1%
Minnesota	7.79	7.44	$ 42,490	$ 35,757	1.0%	0.3%	2,399,774	4,593,246	4.3%	3.3%
Iowa	6.89	6.83	$ 94,599	$ 89,111	1.8%	1.6%	2,665,699	4,803,380	3.4%	5.8%
Indiana	**7.09**	**6.50**	**$ 10,147**	**$ 11,759**	**0.2%**	**0.1%**	**829,799**	**1,654,300**	**1.0%**	**1.2%**
Illinois	10.26	8.46	$ 205,891	$ 11,957	3.4%	0.1%	128,580	213,342	0.2%	0.2%
Kentucky	6.26	5.84	$ 10,189	$ 10,497	0.3%	0.2%	104,464	132,888	0.2%	0.1%
Missouri	6.84	6.56	$ 382,229	$ 12,938	4.4%	0.1%	73,490	95,446	0.1%	0.1%
Kansas	7.45	6.84	$ 2,874	$ 2,405	0.1%	0.1%	3,928	6,694	0.0%	0.0%

Source: U.S. Department of Energy, Energy Information Administration.

Common Criticisms of Revenue Neutrality

- Represents a significant departure from traditional regulation.
- Shifts sales risks from utilities to customers.
- The impact of changes in use per customer for the gas industry are overstated and address the wrong causes on changes in margins. Power industry faces an entirely different set of usage trends.
- At best, the incentive issue is not resolved and never can be with revenue decoupling.
- Decoupling proposals, offered in conjunction with other "regulatory remedies," often diminishes the simplicity argument and raises questions about the purpose of proposal.
- Proportionality issue – changing the rate design for all customers based upon programs for which an exceptionally small percentage of the customers will participate.
- Is actually contrary to "sound economic principles" and well-grounded regulatory policies.

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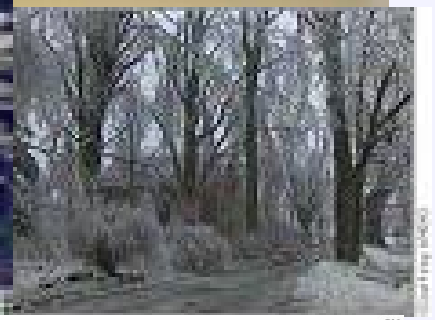
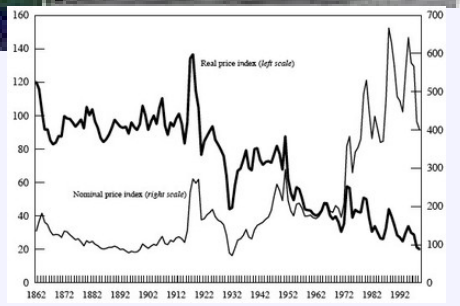
Risks that are Shifted to Ratepayers

Economy

Weather



Commodity Prices



Other Unanticipated Factors

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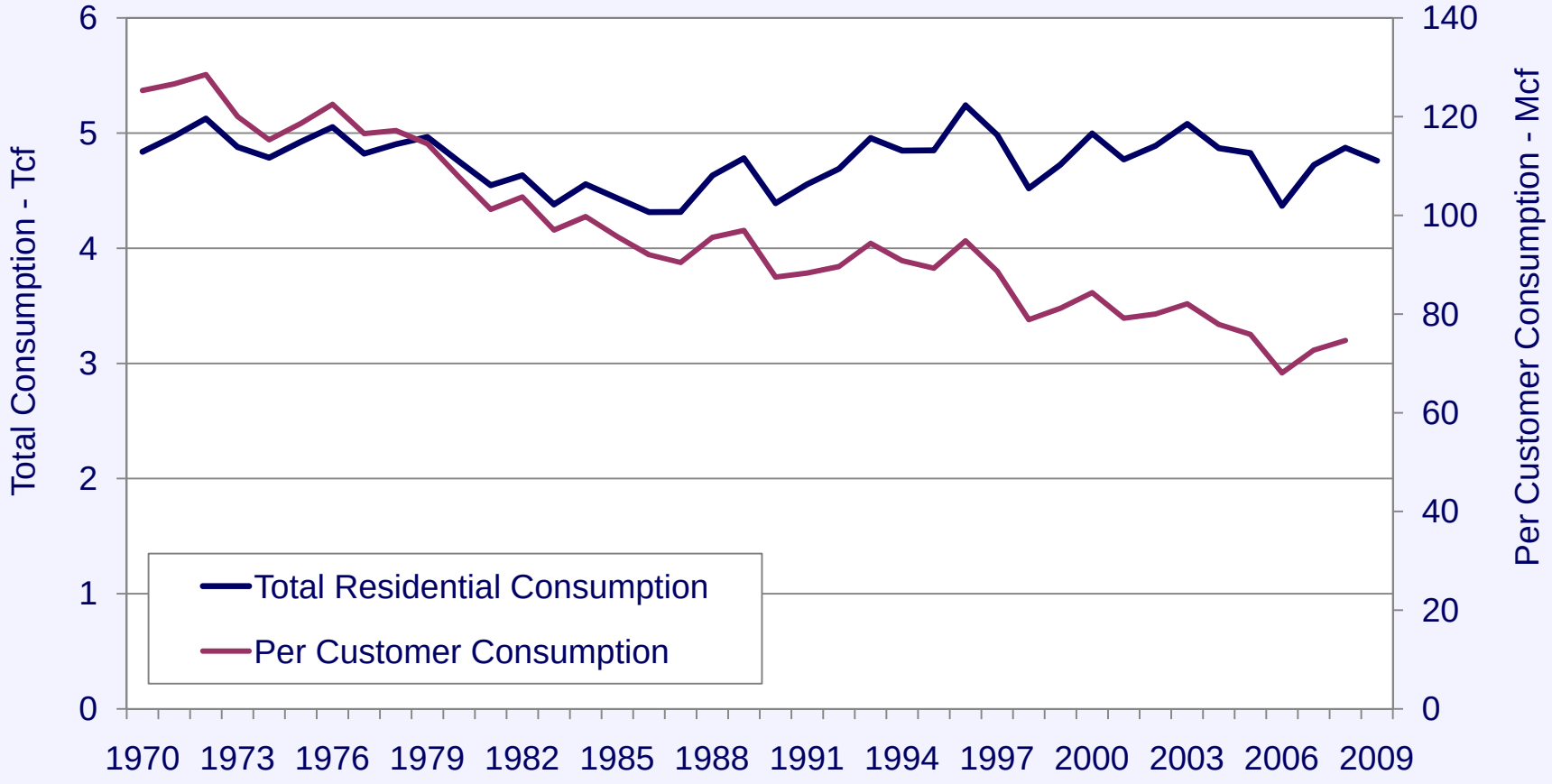
US Residential Natural Gas Use

While overall use per customer is decreasing, overall residential natural gas usage is flat to increasing.



Source: Energy Information Administration, US Department of Energy

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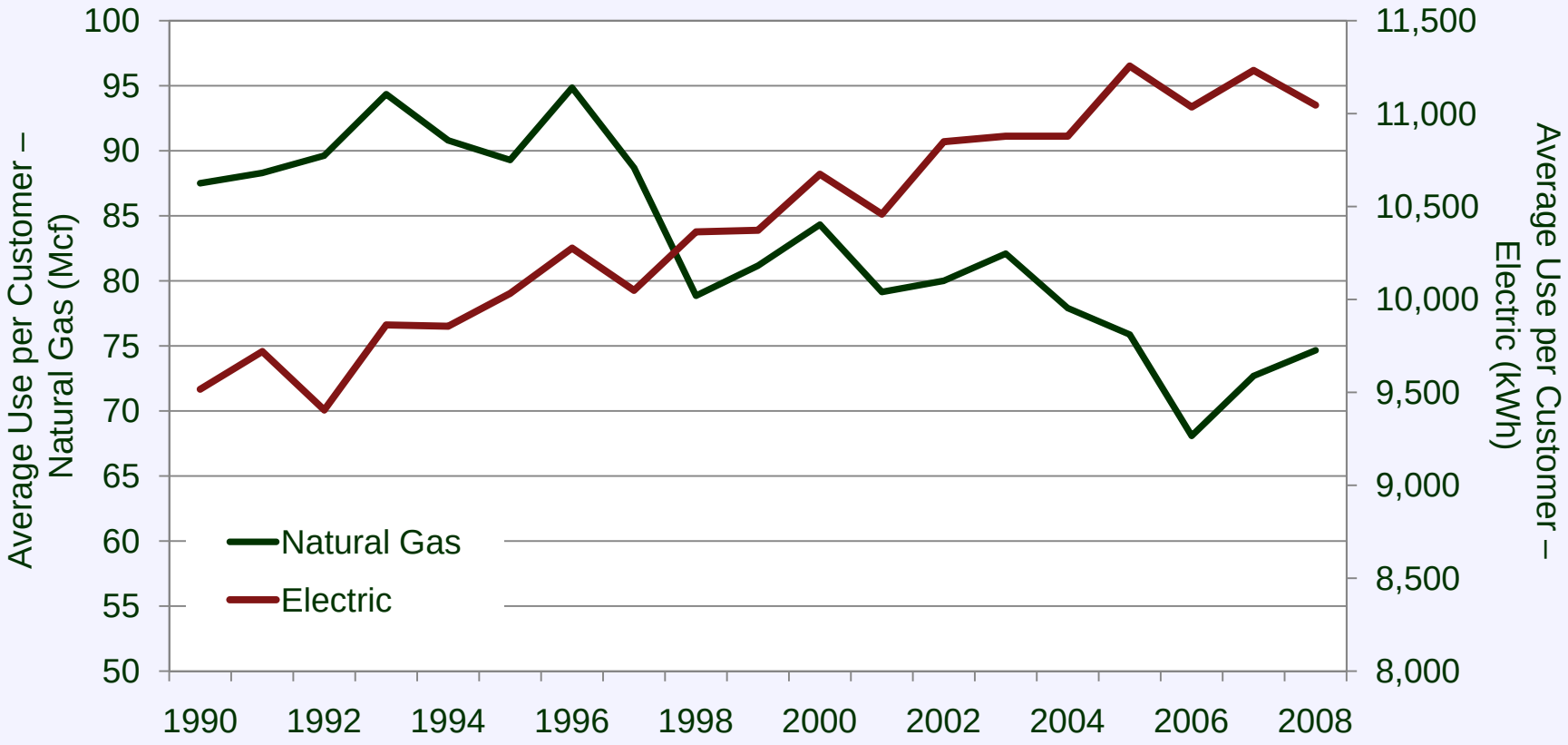
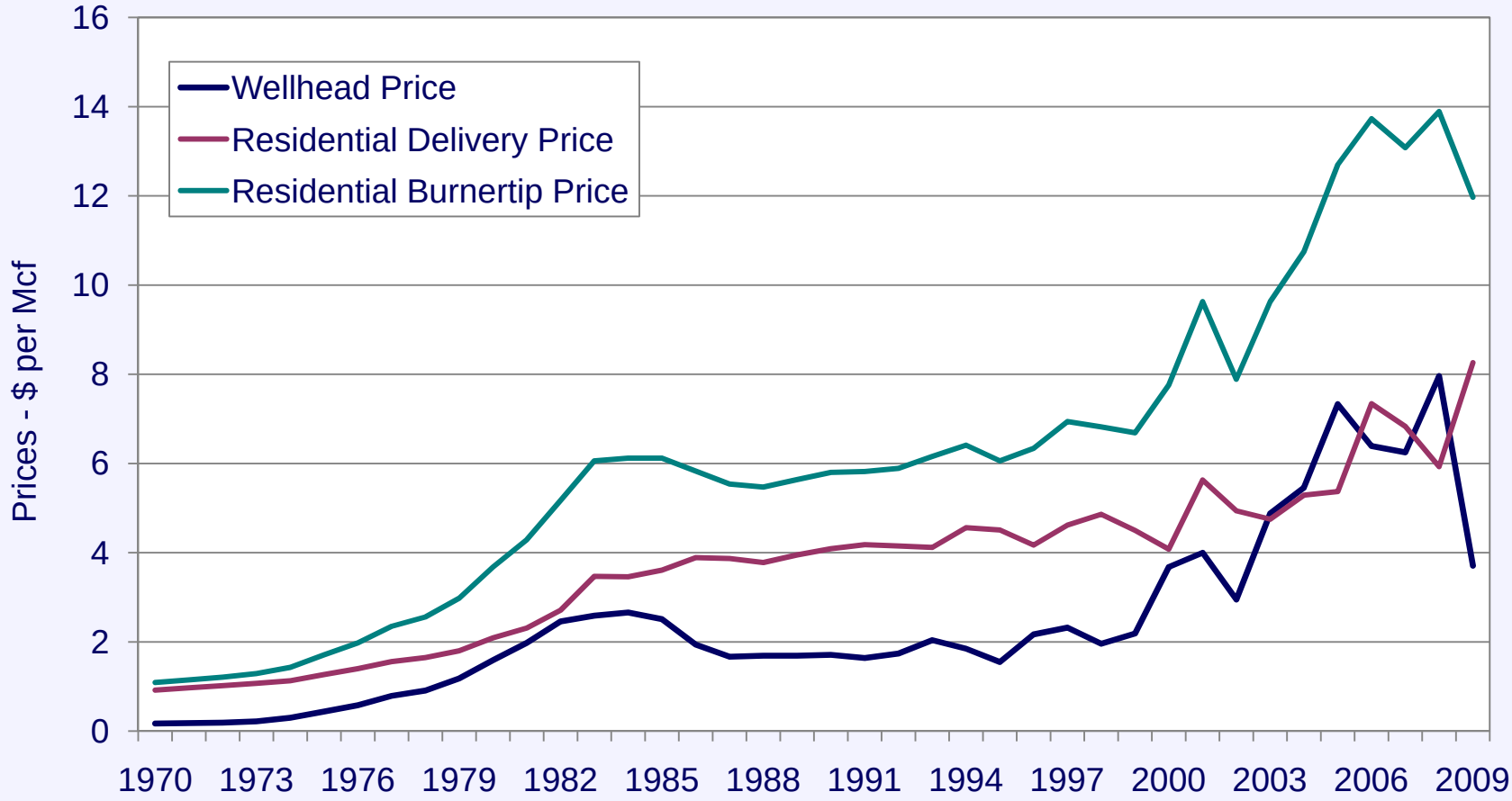
U.S. Residential Natural Gas and Electric Use Per Customer



Source: U.S. Department of Energy, Energy Information Administration.

US Natural Gas Price Trends
Wellhead to Burner-Tip Price

Retail prices have increased significantly since 2000-2001.



Source: Energy Information Administration, US Department of Energy

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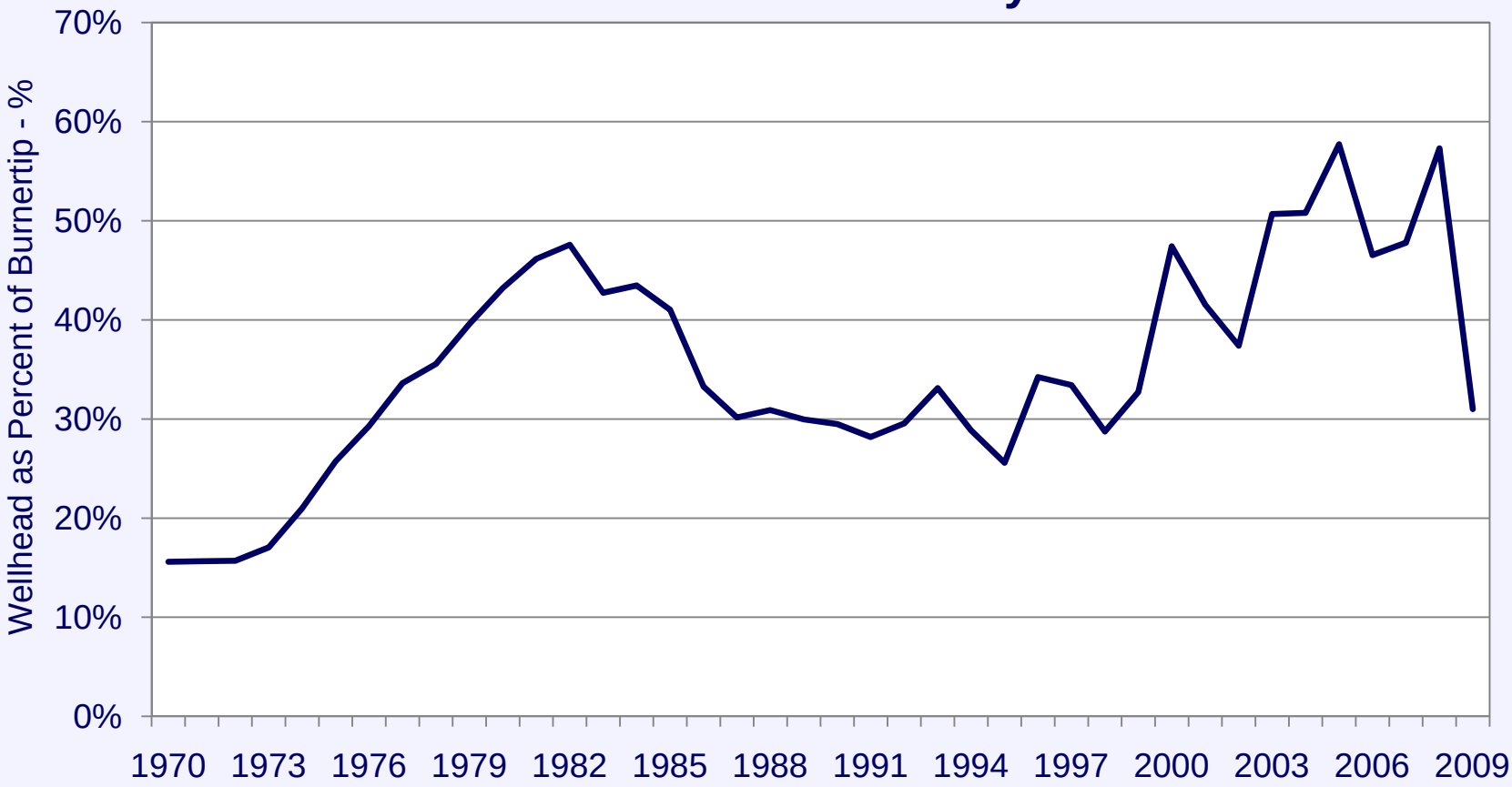
US Natural Gas Price Trends
Wellhead as a Percent of Burner-Tip Price

The commodity share of overall natural gas rate has increased over recent years.



Source: Energy Information Administration, US Department of Energy

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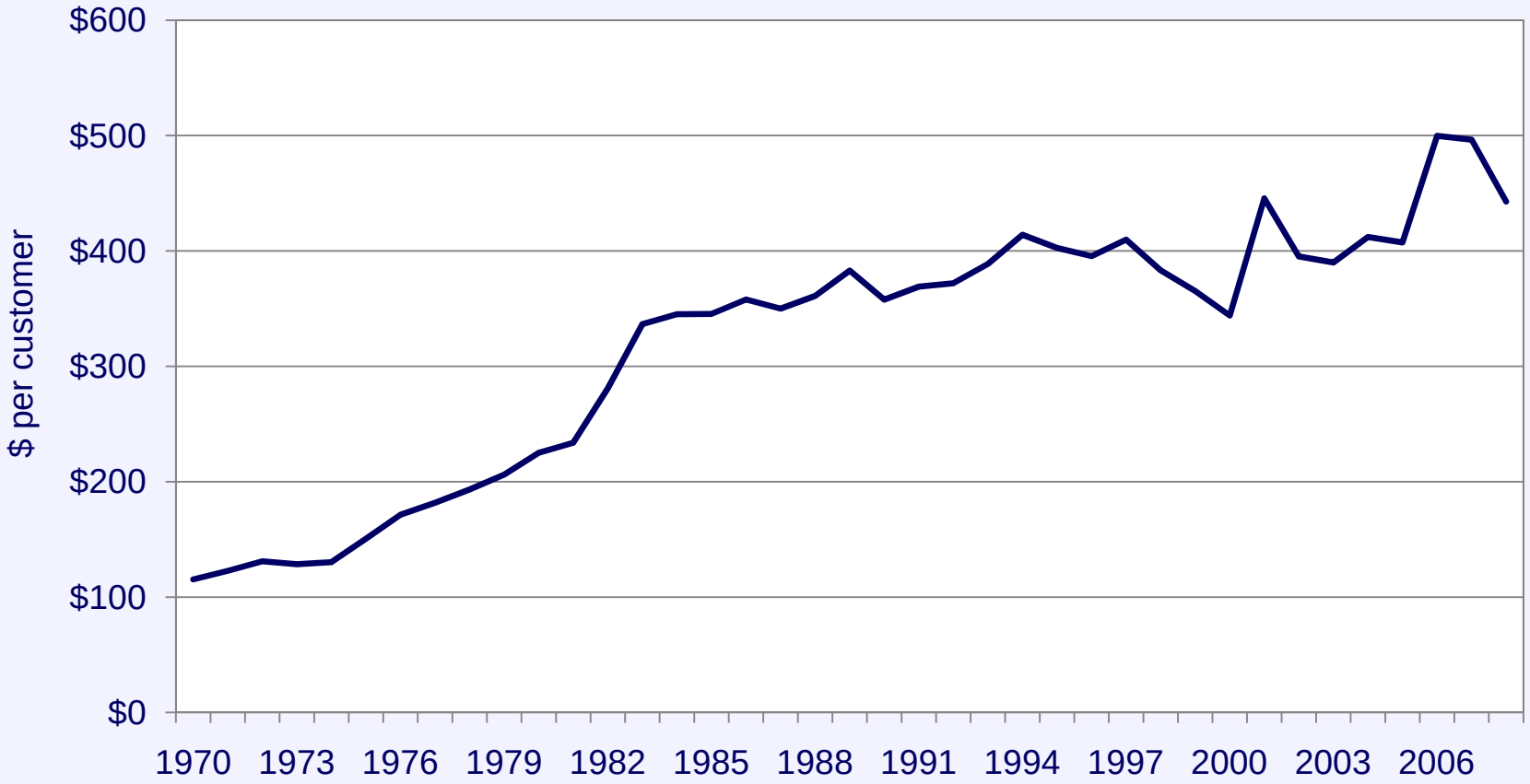
Estimated Natural Gas Base Revenue per Customer

Yet despite high prices, and decreases in use per customer, overall base revenues per customer are at close to historic highs.



Source: Energy Information Administration, US Department of Energy

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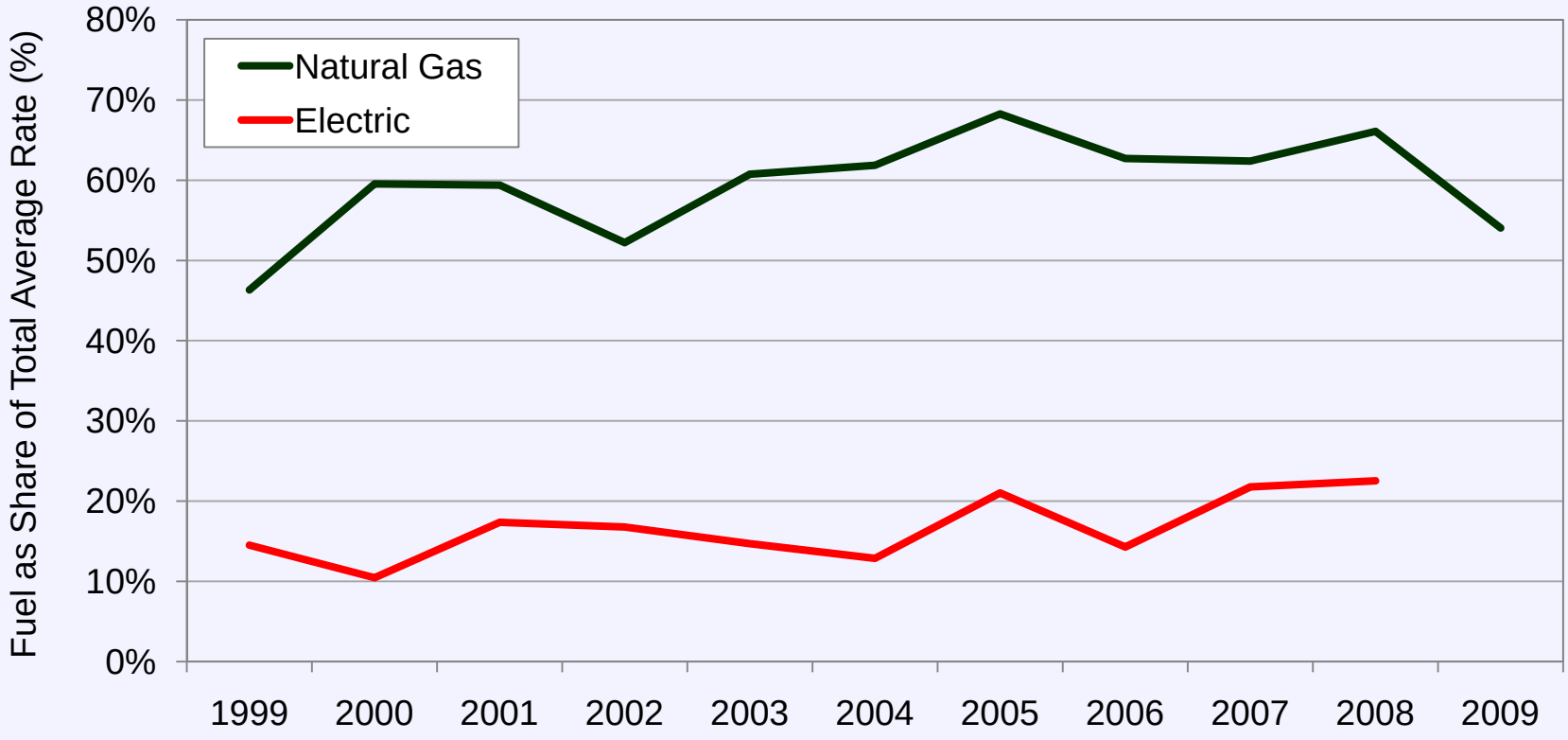
Electric and Gas Cost Shares



Source: U.S. Department of Energy, Energy Information Administration.

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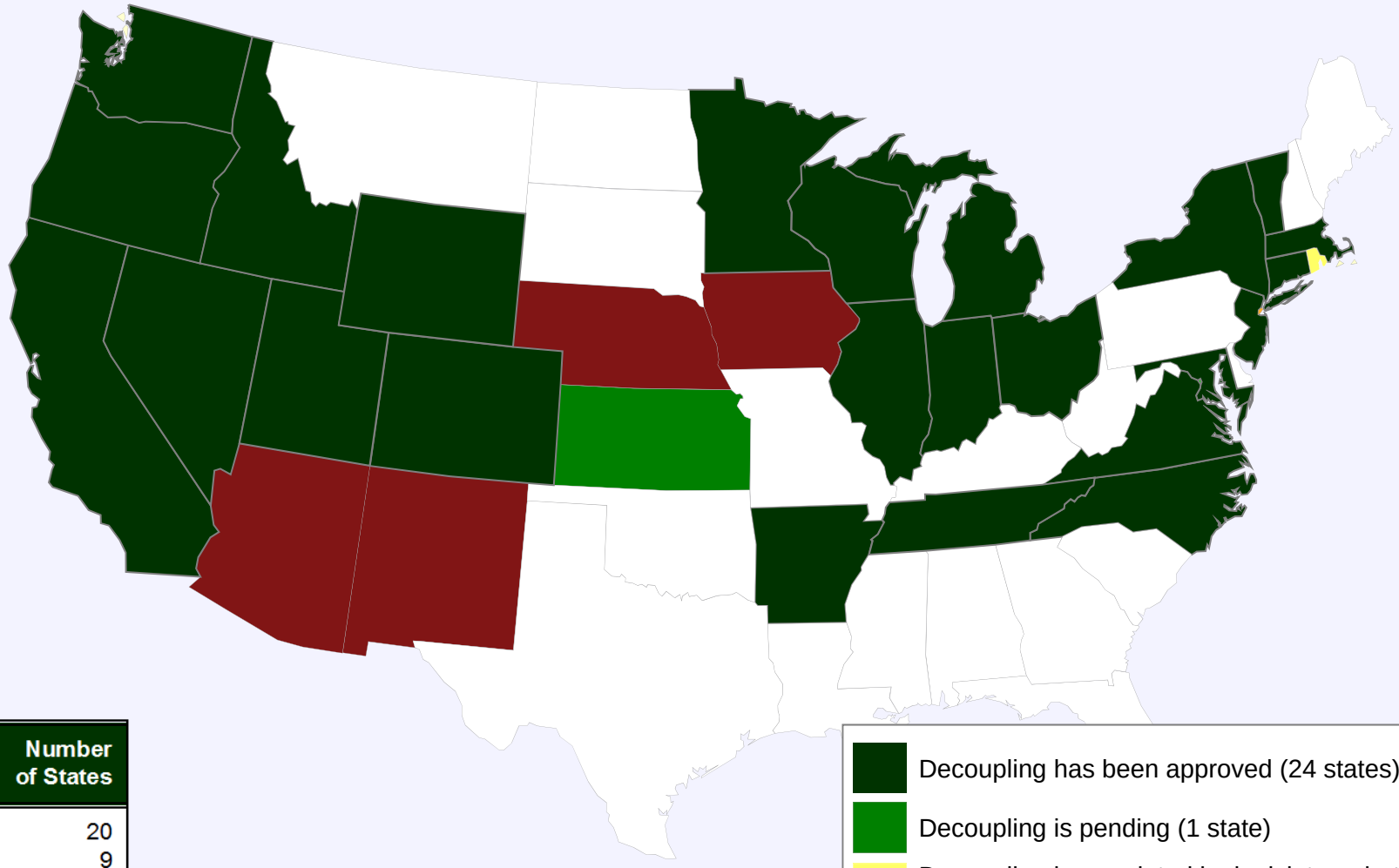
Status of Natural Gas and Electric Decoupling



Adopted Decoupling	Number of States
Natural Gas	20
Electric	9

- Decoupling has been approved (24 states)
- Decoupling is pending (1 state)
- Decoupling is mandated by legislature, but not yet approved by Commission. (1 states)
- Decoupling has been rejected (4 states)
- No decoupling in place (21 states)

Notes:
Arizona has rejected proposals for decoupling. However, it is currently considering decoupling in a generic docket. The **Connecticut** and **Rhode Island** legislatures have required decoupling, but all natural gas proposals have been rejected thus far.

Summary Financial Impact of Changes in Use and Customers, "Wild West Utility" (2001-2005)

Wild West LDC is facing significant growth challenges – ROE impacts of decreases in use per customer pale in comparison to change in rate base and new customer capital expenses.

	2001	2002	2003	2004	2005	2006
Return on Equity						
Allowed ROE	11.00%	11.00%	11.20%	11.20%	11.20%	11.20%
ROE Impact of Change in Use per Customer	0.00%	-0.60%	1.99%	-0.41%	-0.87%	-0.41%
ROE Impact Change in Customers	0.00%	1.04%	1.66%	1.17%	1.51%	1.51%
ROE Impact Change in Expenses Rate Base and Capital Elements	**-0.54%**	**-2.38%**	**-3.76%**	**-1.92%**	**-1.16%**	**-2.08%**
Actual Achieved ROE	10.46%	9.06%	11.09%	10.05%	10.68%	10.22%

Is decoupling a solution to the "use per customer problem" ?

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Proportionality Issue

Significant change in rate design for a very small change in overall sales and very limited number of customers.

		Program Spending (million $)	Percent of Retail Revenues (%)	Gas Savings (Mcf/year)	Percent of Gas Sales Saved (%)	Volume saved per million $ (Mcf/year)	Benefit-Cost Ratio
Aquila	$	2.10	1.4%	146,000	0.5%	69,000	-
Centerpoint	$	5.60	0.5%	720,000	0.5%	128,600	2.60
Keyspan	$	12.00	1.0%	490,000	0.4%	41,000	3.00
Northwest Natural Gas	$	4.70	0.7%	85,000	0.1%	18,000	-
NSTAR	$	3.90	0.8%	71,500	0.2%	18,000	2.29
PG&E	$	13.50	0.4%	2,000,000	0.7%	148,000	2.10
PSE	$	3.80	0.4%	311,000	0.5%	82,275	1.93
SoCal Gas	$	21.00	0.6%	1,100,000	0.3%	52,000	2.67
Vermont Gas	$	1.10	1.6%	57,000	1.0%	52,000	5.60
Xcel Energy (MN)	$	4.00	0.7%	663,000	0.9%	166,000	1.56

Generally, less than one-half of one percent.

Source: S. Tegen and H. Geller, Natural Gas Demand-Side Management Programs: A National Survey. Boulder, CO: Southwest Energy Efficiency Project. January 2006. Based upon surveyed findings of the top ten gas utilities in 2004.

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Incremental Impact of DSM Implementation on Shareholders, Wild West Utility

	Change in Revenue			Income Impact				
	Use per Customer	DSM	New Customers	Use per Customer	DSM	New Customers	Shareholders Equity	Impact on ROE
2007	$ (1,971,361)	$ (288,537)	$ 7,052,203	$ (1,221,185)	$ (178,738)	$ 4,368,579	$ 313,071,056	0.95%
2008	$ (2,905,519)	$ (608,826)	$ 6,391,367	$ (1,799,862)	$ (377,145)	$ 3,959,215	$ 339,501,229	0.52%
2009	$ (4,485,340)	$ (943,652)	$ 6,213,829	$ (2,778,502)	$ (584,557)	$ 3,849,237	$ 363,965,179	0.13%
Total	**$ (9,362,220)**	**$ (1,841,015)**	**$ 19,657,399**	**$ (5,799,549)**	**$ (1,140,440)**	**$ 12,177,031**		**1.61%**
							Net Impact:	**$ 5,237,041.80**

Exaggerated Example

- Reduced revenues/income reduces overall taxes and needs to be considered.
- A one percent per year (3 percent cumulative) reduction is beyond current experience.
- The additional income created by customer growth from the test year is completely ignored (and its corresponding income effects).
- Net impact for a growing LDC is moderate – the net income impact is still positive, not negative.

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Typical Lost Revenue Northeastern Electric Utility with "Aggressive" EE Plan

	Actual Base Revenue ($)	Annual Lost Margin ($)	Estimated Lost Margin as a Percent of Actual Base Revenue (%)
2005	$ 114,849,522	$ 305,934	0.27%
2006	$ 113,812,029	$ 275,989	0.24%
2007	$ 125,985,512	$ 201,826	0.16%
2008	$ 116,836,010	$ 261,614	0.22%
2009	$ 110,272,144	$ 213,480	0.19%
2010	$ 111,603,000	$ 351,454	0.31%
2011	$ 110,883,000	$ 620,656	0.56%

Revenue Neutrality Mechanisms Are Not the Only Options

- **Projected test years:** forecasts could account for anticipated energy efficiency savings.
- **Cost-effectiveness tests:** screening on RIM-passing measures only.
- **Lost Revenues (*ex post*):** periodic filings on proven, *ex post* lost revenues/sales.
- **Rate design (inclining blocks):** higher rates in upper blocks.
- **Repression adjustments**: usage adjustment to correct of DSM-related reductions in usage.
- **Direct Incentives:** performance-based incentives for programs.
- **Risk Management:** if volatility is an issue, then manage it.
- **More frequent rate cases:** traditional approach at correcting rates that get out of balance.

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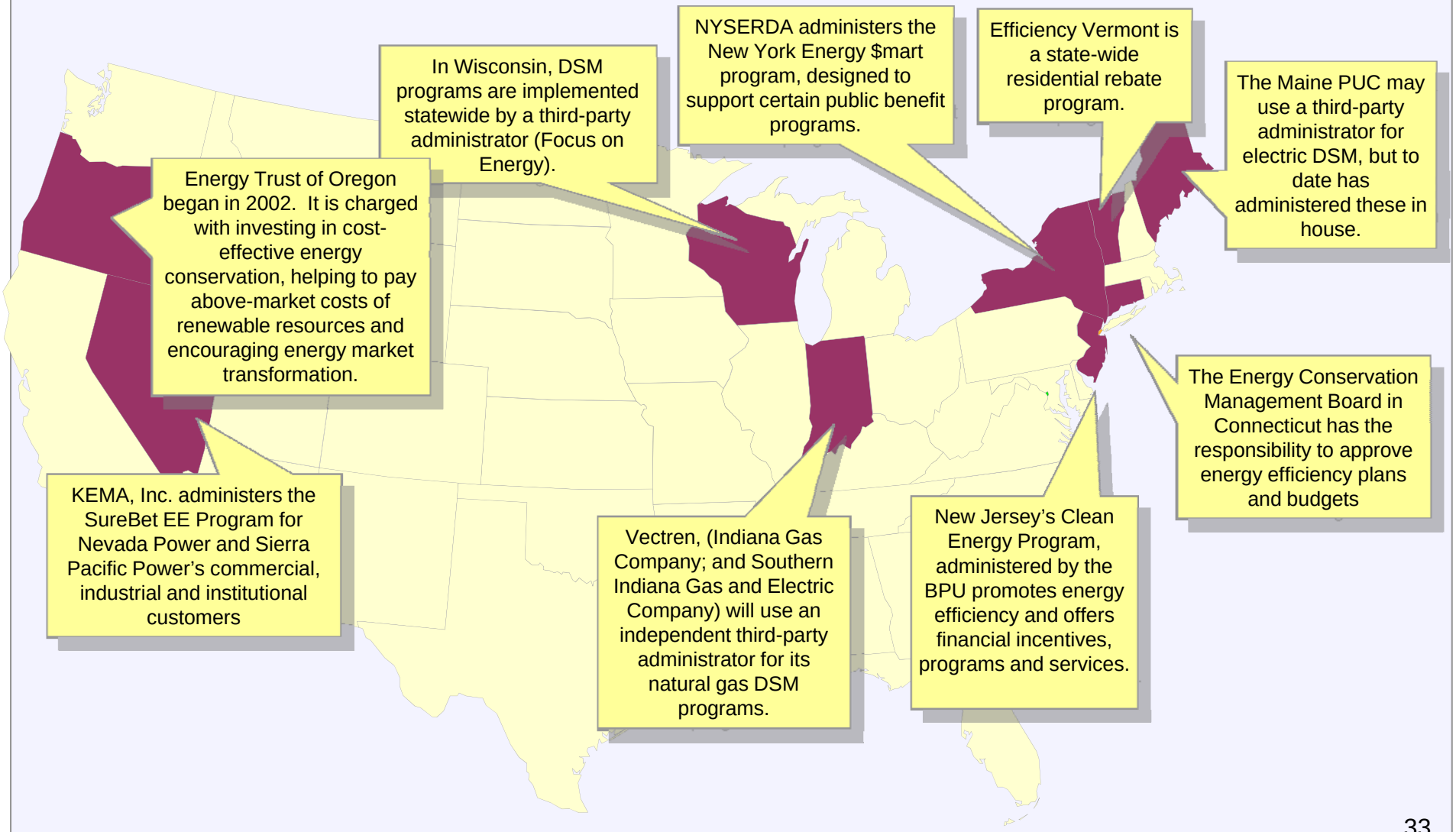
States with Third-Party Administrators



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Capital Tracker Analysis

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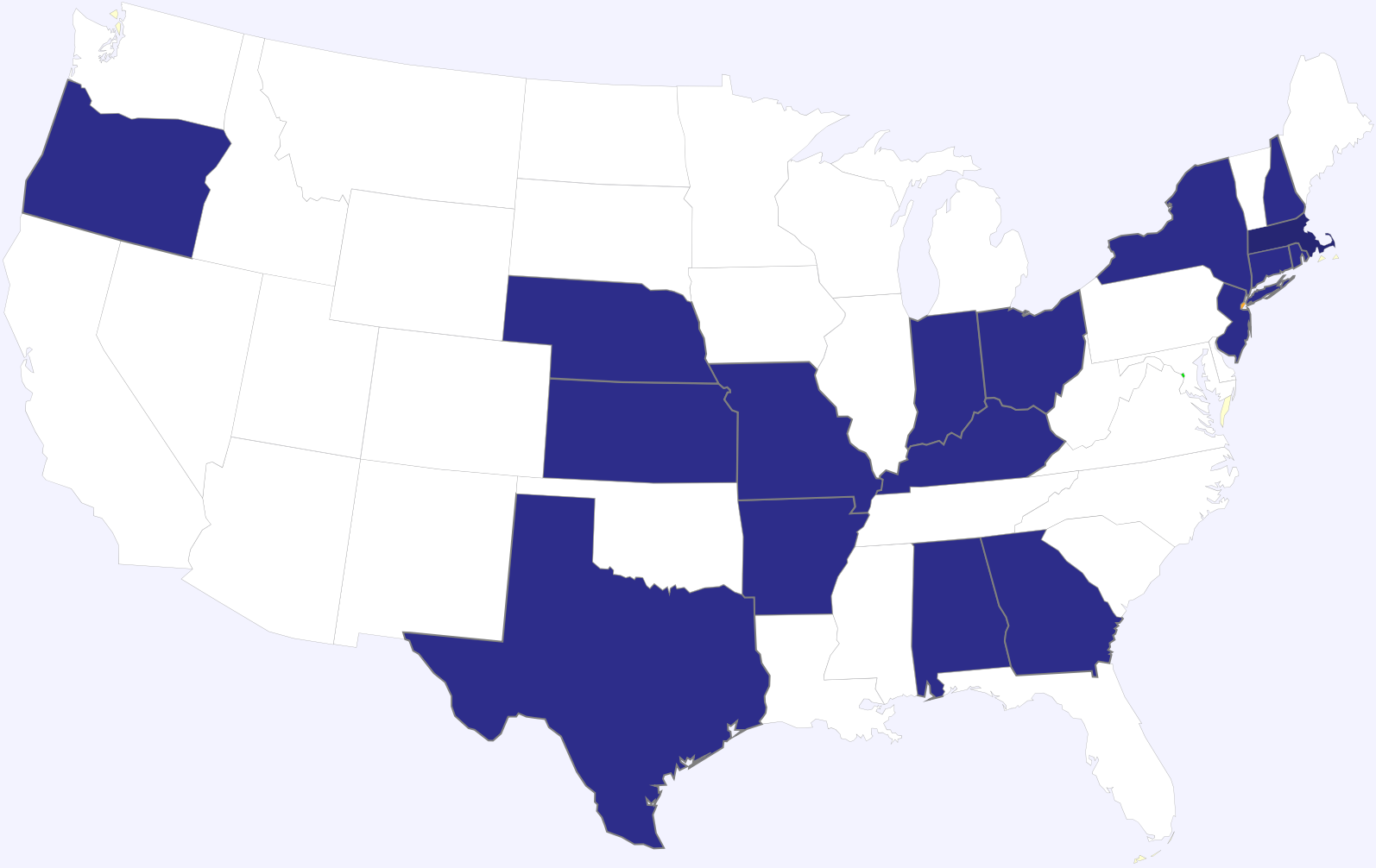
Capital Cost Recovery Mechanisms

Approximately 17 states with capital trackers, all associated with natural gas pipeline replacement costs.



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Examples of Tracker Rationales

Company	Tracker Proposal	Tracker Mechanics	Rationale
Bay State Gas Company (Docket 09-30)	Targeted Infrastructure Replacement Factor (“TIRF”)	Used to recover cost of replacing cathodically unprotected steel mains. Includes a rate cap limiting the annual change in revenue requirement to 1% of total revenues of the prior year. Subject to a prudence review in each annual TIRF filing.	Cost of investment in non-revenue producing plant, has negative impact on Company’s ability to recover adequate revenues to provide safe and reliable utility service.
National Grid (Docket 09-39)	Component of “Revenue Decoupling Ratemaking Plan (“RDR Plan”) (CapEx Adjustment)	Would be used to adjust revenue requirement - decoupling removes revenues from increasing sales which is a traditional source of revenue to fund capital investment between rate cases.	Needed to replace “aged” assets; and costs for electric power distribution capital projects have increased rapidly in recent years.

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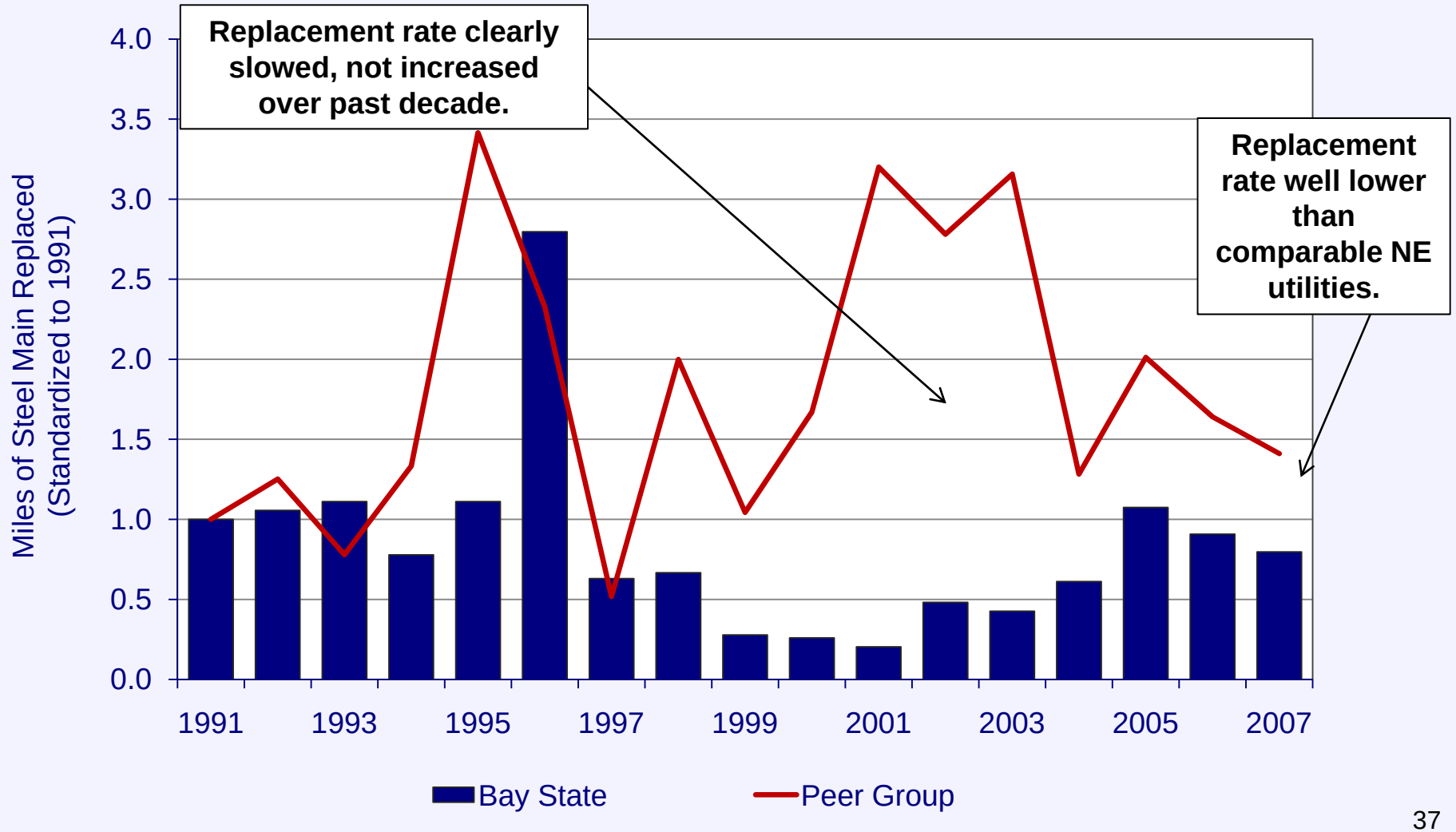
Bay State Gas Company
Replacement of Steel Mains

Bay State's replacement rate did not increase relative to historic standards and was considerably behind comparable utilities.



Source: Office of Pipeline Safety, U.S. Department of Transportation

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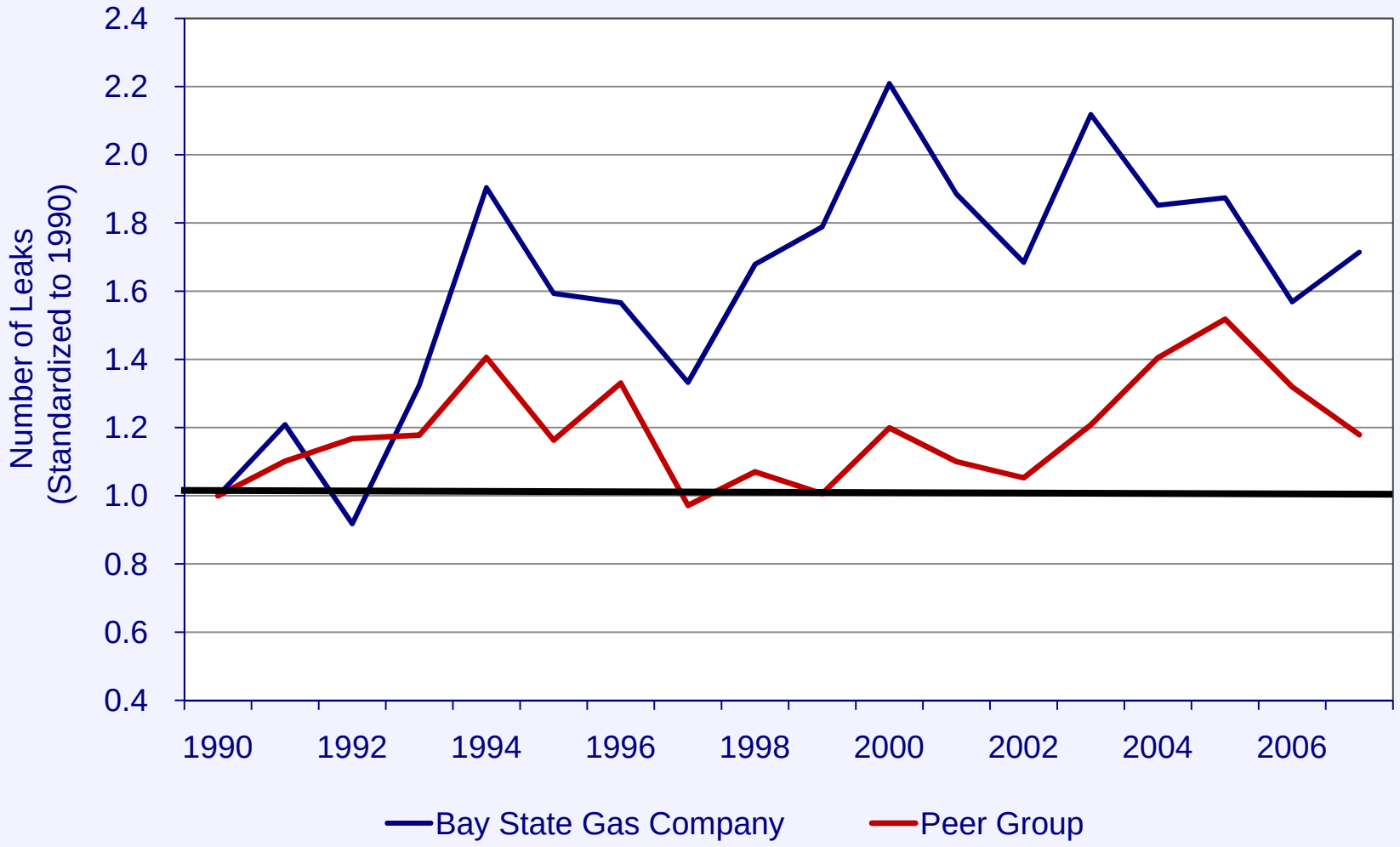
Bay State Gas Company
Number of Leaks due to Corrosion

Bay State's corrosion-related leaks worse than peer group as well.



Note: Central Hudson Gas & Electric is standardized to 1991.
Source: Office of Pipeline Safety, U.S. Department of Transportation

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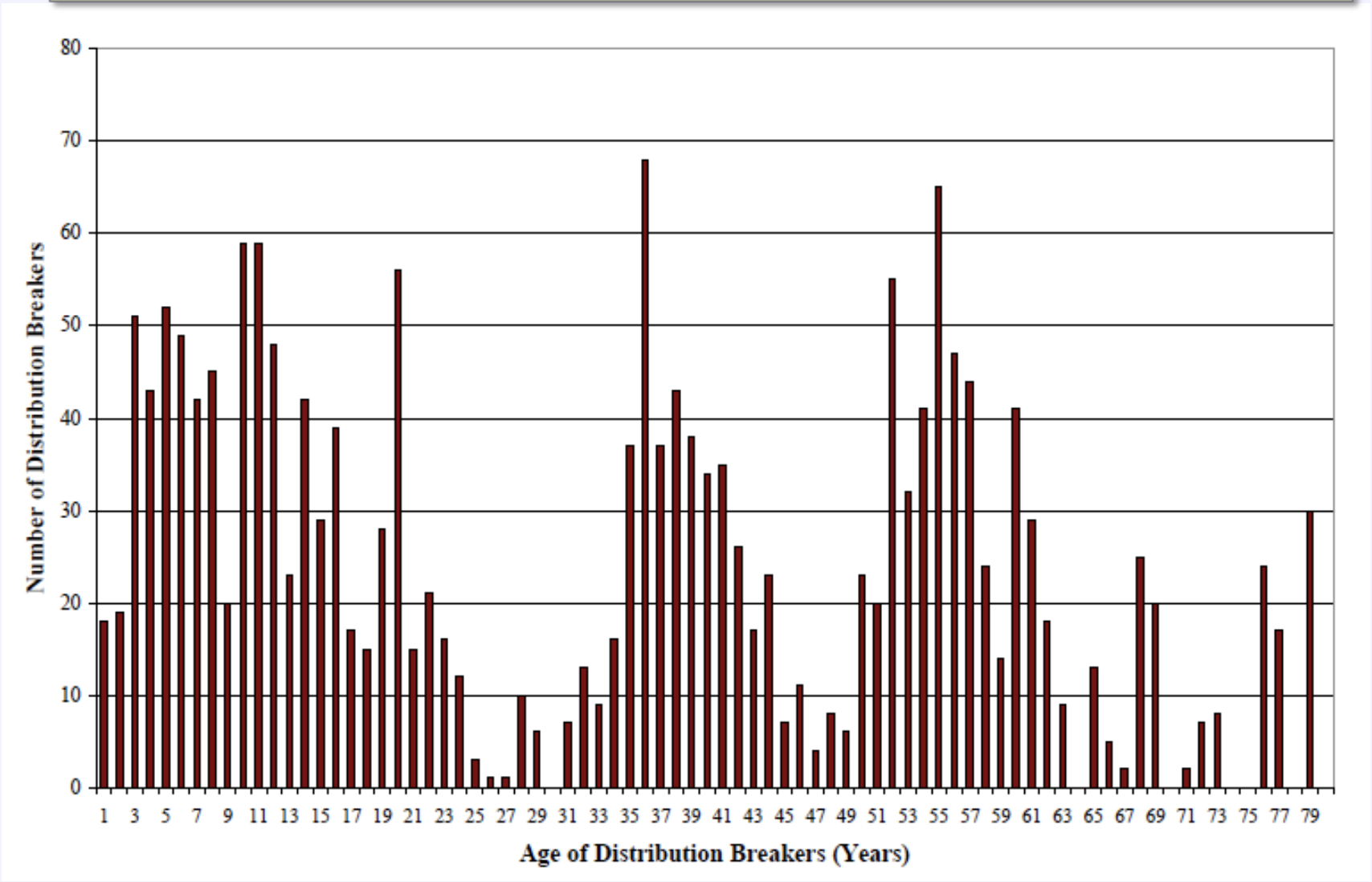
National Grid - Number of Distribution Breakers by Age

Premise of National Grid's proposal was that its assets were "old."



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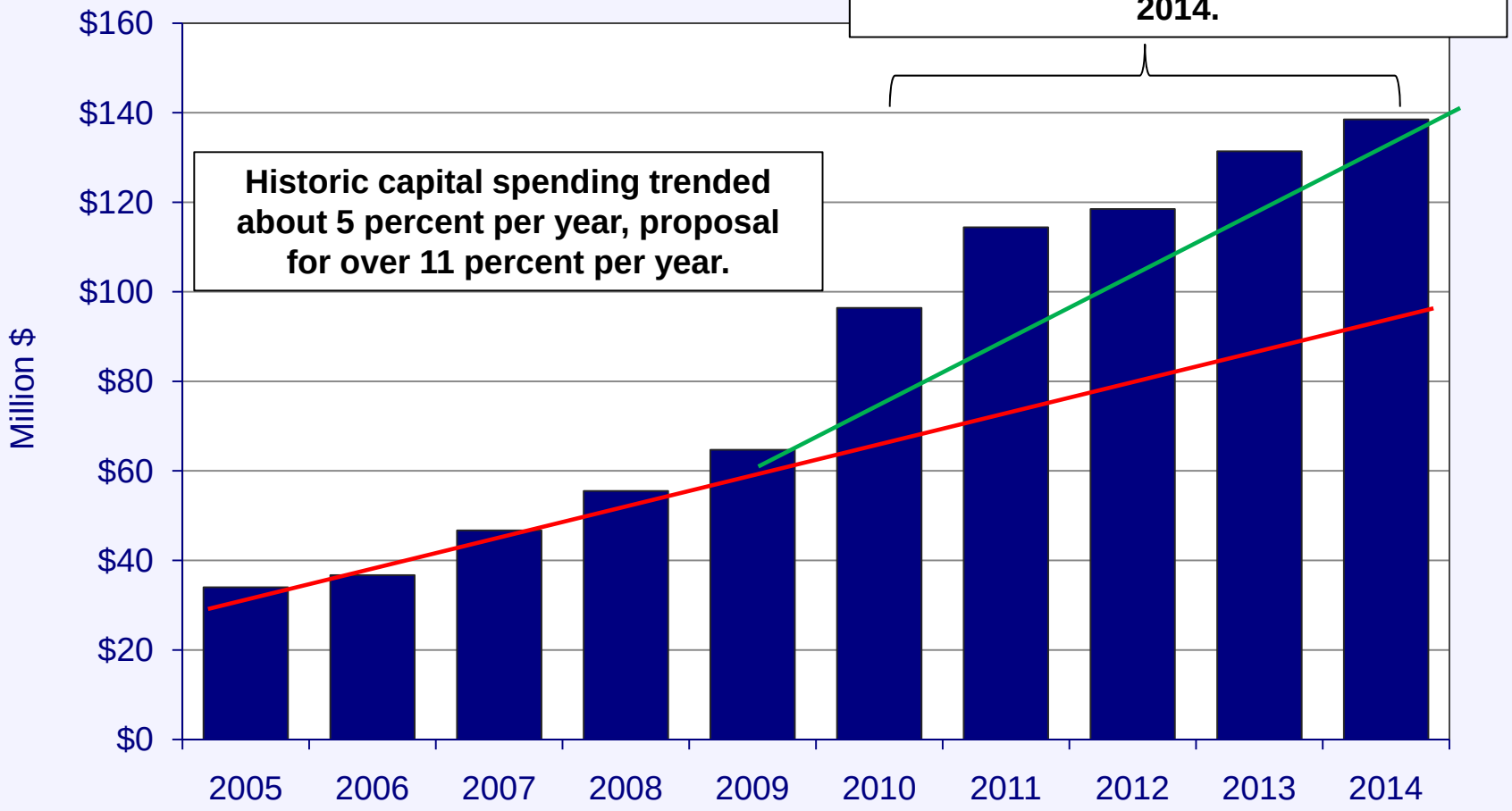
National Grid - Asset Replacement and Reliability, Capital Spending

Important to review these proposals within historic context.

Capital spending is estimated to increase almost 44% from 2010 to 2014.



Historic capital spending trended about 5 percent per year, proposal for over 11 percent per year.

Source: Office of Pipeline Safety, U.S. Department of Transportation

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National Grid: Average Remaining Life Relative to Peers

Important to compare asset ages with comparable utilities. In Grid's case, their asset ages were comparable (in some instances younger) than peer utilities.

Results, interestingly, were in direct contrast to their depreciation study which were finding (requesting) longer asset lives, not shorter ones.

Account:	361 Structures and Improvements	362 Station Equipment	364 Poles, Towers and Fixtures	365 Overhead Conductors and Devices	366 Underground Conduit	367 Underground Conductors and Devices	368 Line Transformers	369 Services	370 Meters	Total Composite
Average Remaining Life (years):										
Massachusetts Electric:										
Proposed Remaining Life from Depreciation Study	36.57	54.99	26.87	29.58	33.78	35.04	20.11	30.27	15.77	31.65
Current Remaining Life from Depreciation Study	34.80	37.88	22.80	23.87	34.87	34.08	19.62	21.97	20.68	26.94
FERC Form 1	30.82	38.37	19.49	20.48	33.71	34.14	17.16	19.58	19.46	25.02
Boston Edison (NSTAR)	41.00	32.90	38.00	42.10	41.90	35.90	26.80	46.17	19.10	36.03
Central Hudson	63.90	36.09	40.70	42.50	47.00	38.90	26.40	36.44	15.70	36.72
Central Maine	62.42	31.08	33.67	46.14	37.17	38.94	23.97	37.05	10.93	33.88
Central Vermont	40.30	31.60	23.40	26.40	34.90	28.30	22.10	25.40	19.50	25.88
Green Mountain	25.60	26.70	25.20	24.80	29.90	21.60	35.80	30.20	23.00	27.71
Maine Public Service	17.49	33.52	29.64	32.70	44.15	30.14	25.75	26.51	28.44	30.02
Orange & Rockland	55.00	23.00	40.00	48.41	18.00	50.00	33.00	38.04	18.00	37.56
Average (excluding Mass Electric)	43.67	30.70	32.94	37.58	36.15	34.83	27.69	34.26	19.24	32.54

Source: FERC Form 1.

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Capital Trackers: Take Away Points

- **Focus closely on the definition of tracker and purported need which is often blurred and confused (i.e., replacement versus growth).**
- **Proposals with limited empirical support should be vigorously questioned.**
- **Comparative statistics (across time and comparable utilities) can be useful tool in evaluating capital tracker proposals.**
- **Important to focus on the outputs (reduced leakages, increased reliability) as well as the inputs (asset replacement). What are ratepayers getting for their support?**
- **No capital tracker should be approved without a clear asset development plan; timetable, benchmarks, development caps, and accountability.**

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Inflation Analysis

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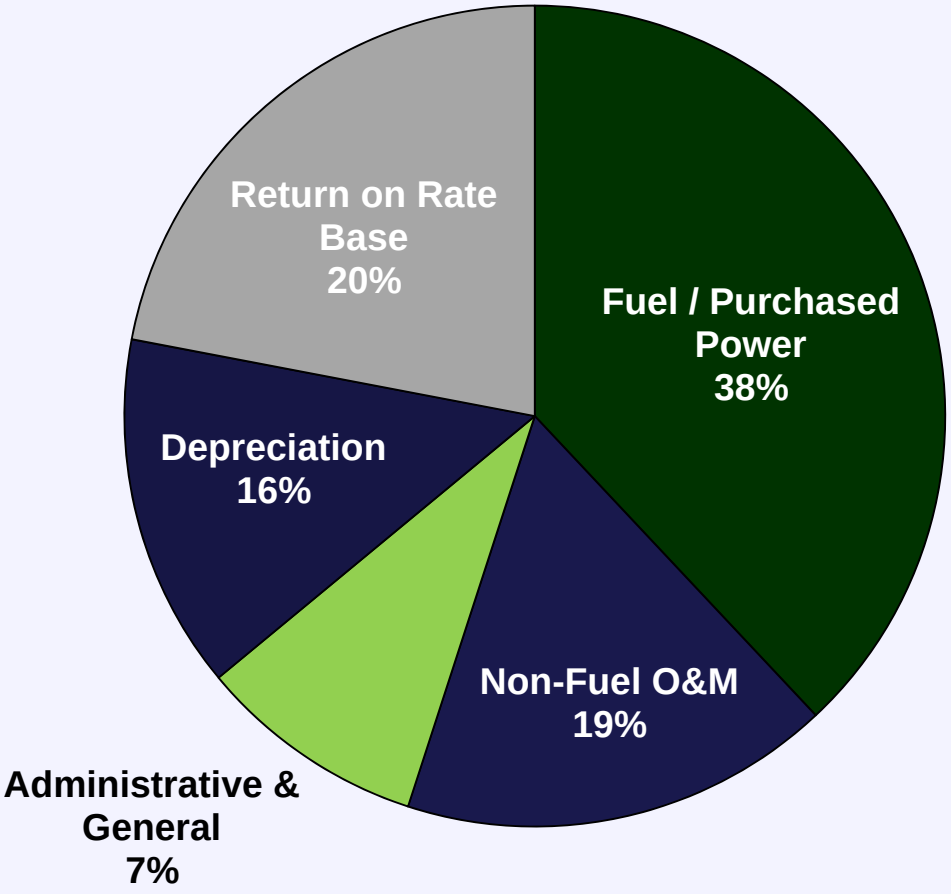
Electric Utility – Typical Retail Rate Components



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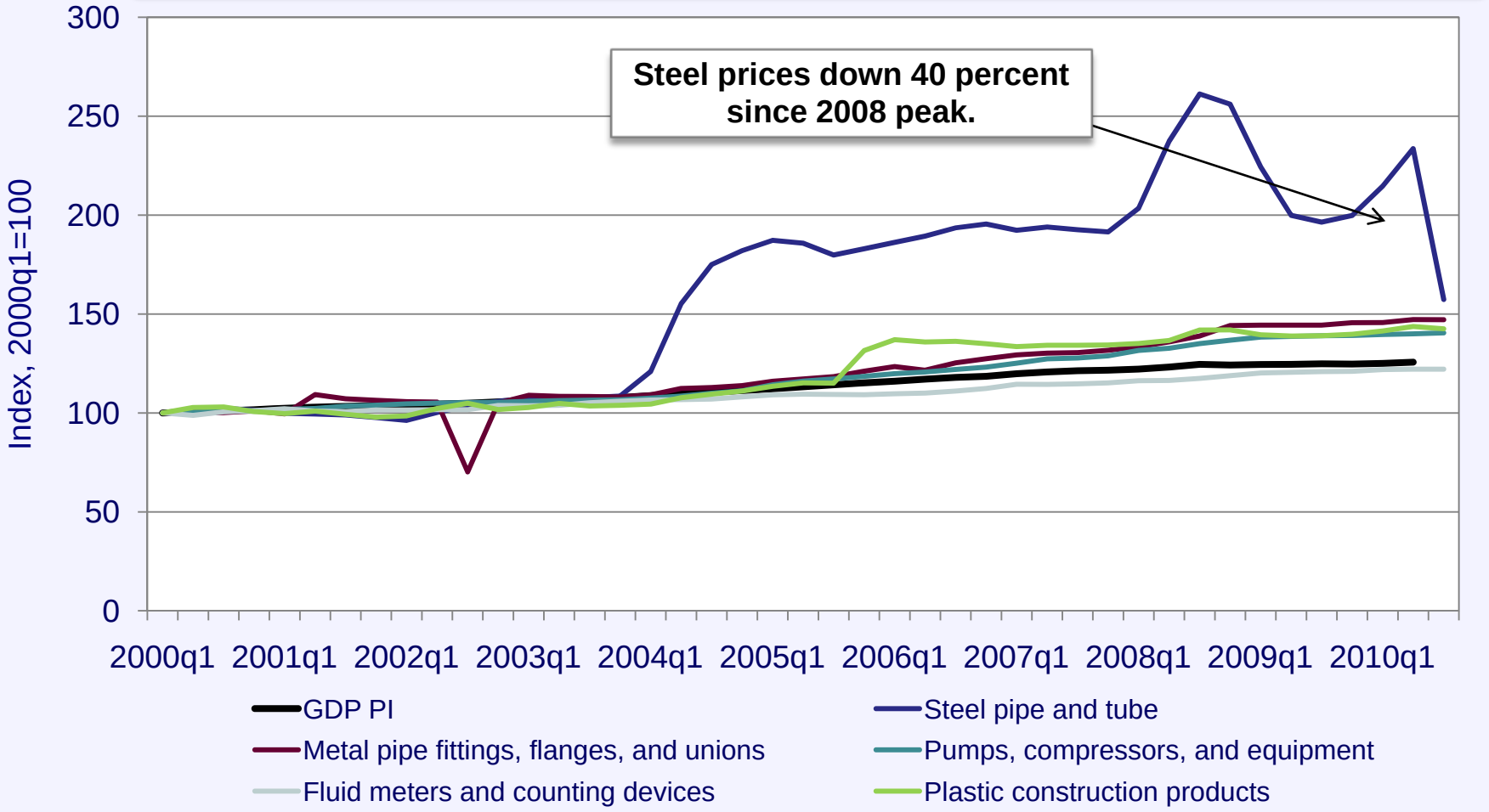
Price Indices for Steel and Metal Pipe, Pumps, Compressors, Meters and Plastic

For the natural gas industry, commodity and capital cost input increases are recent anomalies relative to historic trends. The longer run trend is comparable to the overall level of inflation.



Source: Bureau of Labor Statistics, U.S. Department of Labor; and Bureau of Economic Analysis, U.S. Department of Commerce.

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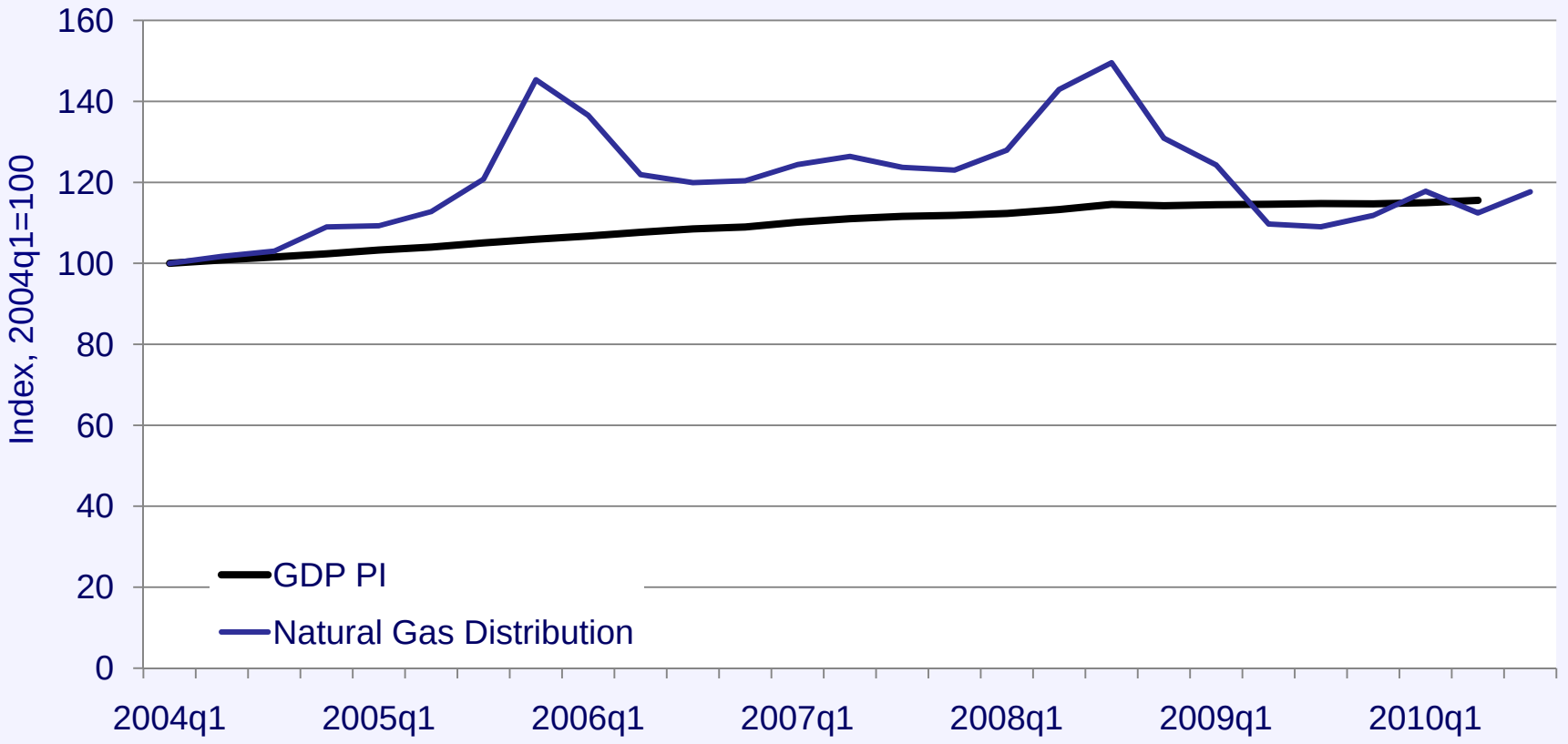
Price Index for Natural Gas Distribution

Inflation for gas distribution service did increase relative to 2004, but year-over-year rates of change have flattened considerably.



Source: Bureau of Labor Statistics, U.S. Department of Labor; and Bureau of Economic Analysis, U.S. Department of Commerce.

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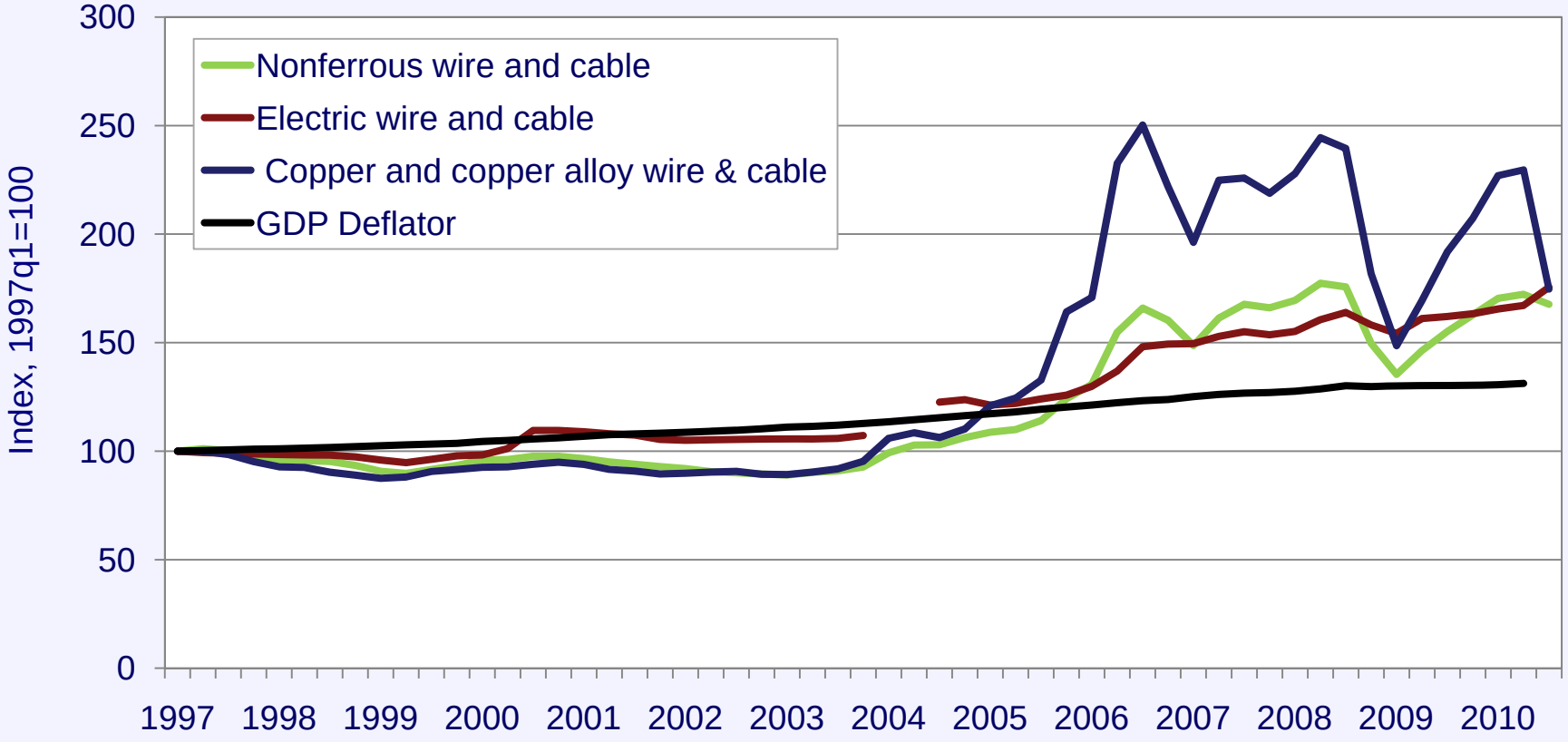
Price Indices for Electric Wire and Cable

Commodities important to the electric industry have seen copper wire decrease by close to 30 percent from its high in 2006. Similarly, nonferrous wire has decreased over 17 percent in less than one year.



Source: Bureau of Labor Statistics, U.S. Department of Labor; and Bureau of Economic Analysis, U.S. Department of Commerce.

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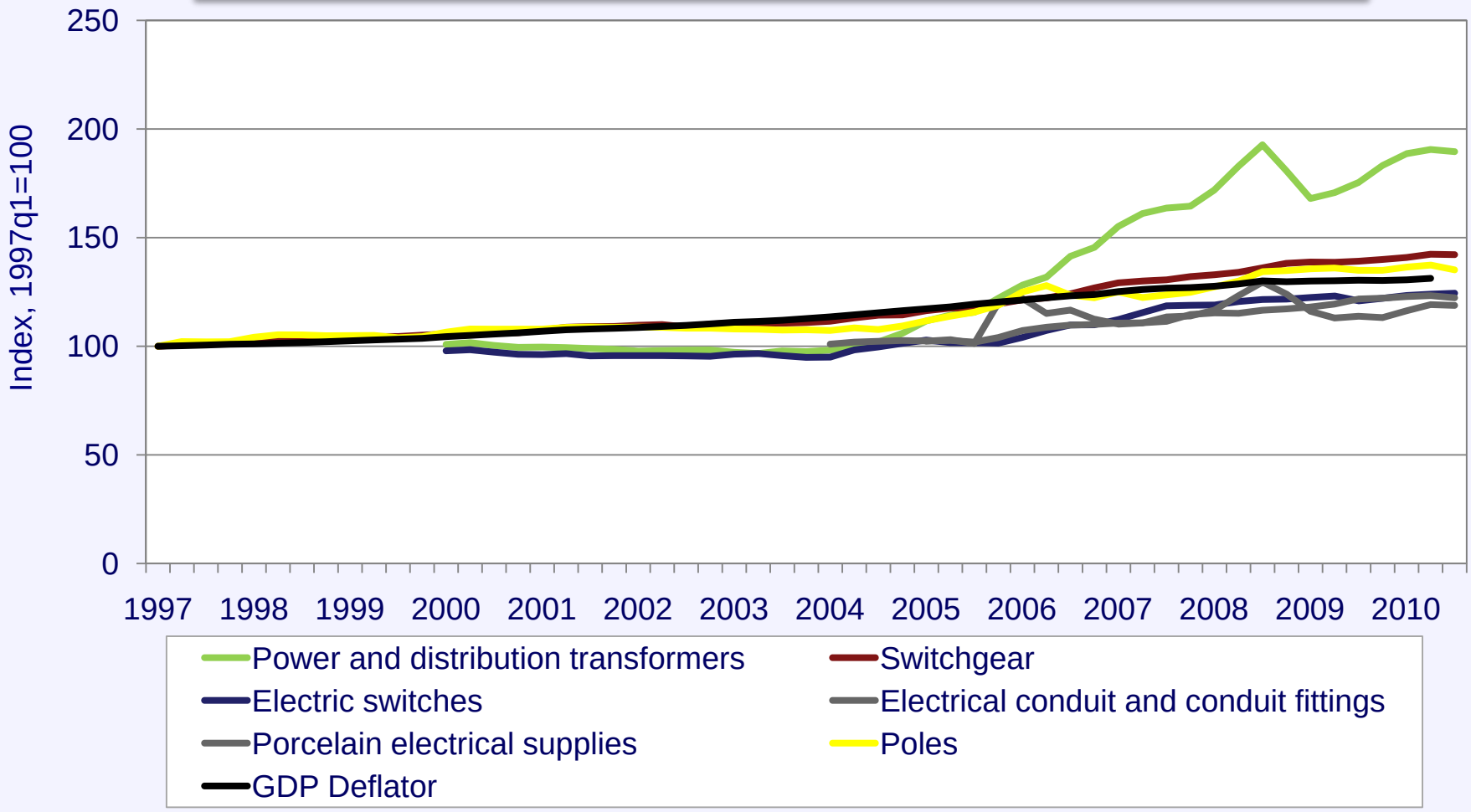
Price Indices for Other Electric Distribution Components

The costs for other important electric cost components has actually been below the general rate of inflation.



Source: Bureau of Labor Statistics, U.S. Department of Labor; and Bureau of Economic Analysis, U.S. Department of Commerce.

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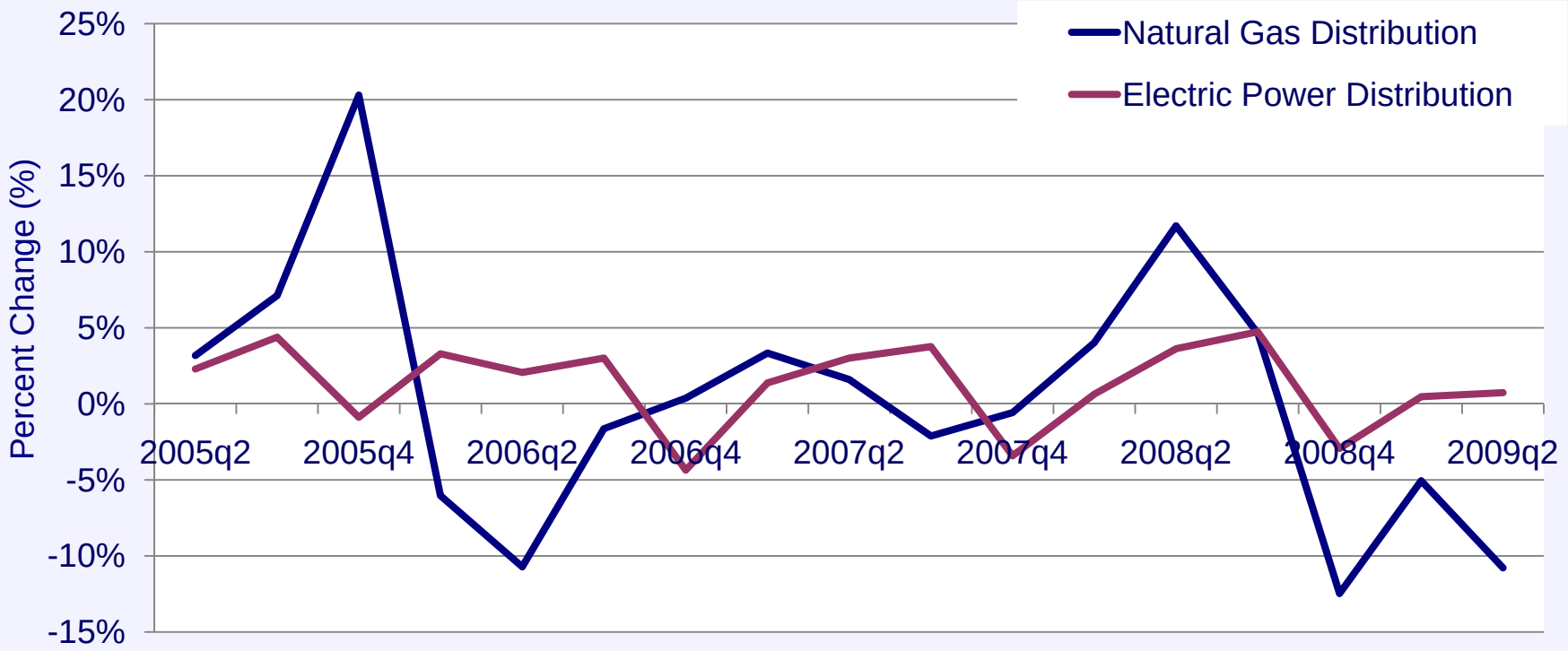
Annual Change in Natural Gas and Electric Power Distribution Price Indices

The annual rate of change for both indices has been falling.



Source: Bureau of Labor Statistics, U.S. Department of Labor; and Bureau of Economic Analysis, U.S. Department of Commerce.

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Inflation Trackers: Bonbright

"The inflation allowancers' position that fairness and constitutional non-confiscatoriness mandates an adjustment is wrong and is not an appropriate basis for an inflation adjustment. Such an adjustment is selective, non-remedial, and unfair to others. Fixed security holders are not safeguarded against inflation either. Common shareholders are not promised an inflation-adjusted return -- indeed no return is promised. Non-regulated shareholders are not given inflation-proof securities, although they have tended to do better in recent inflationary periods. Under rational expectations, the technique probably would not work and if it did, it would unsettle regulation." [Bonbright, pp. 350-351].

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Inflation Trackers: Kahn

Any scheme of compensation is fair provided only that it was reasonably expected by investors. As long as investors are informed in advance of whether they will be explicitly protected against inflation they can in fairness be left to take the fact into account in the prices they pay for the stock at the time of the purchase.

It is impossible to compensate future stock purchasers for past inflation, they will simply bid up the price of the sock and thereby offset that compensation. Further, a change to the regulatory rules that gives stockholders compensation for inflation, where one was not offered before, will confer a “windfall” to existing shareholders.

It is unfair to reimburse stockholders and not make similar provisions for bondholders.

The risk associated with inflation is better handled through an adjustment to the allowed rate of return or some formula-based approach to net income (i.e., performance-based regulation) and not necessarily some set or subset of rates or costs.

Any inflation mechanism, to the extent it is adopted, should apply broadly to an average of all costs (not a selective few) and average estimated from a number of years.

Alfred Kahn. *The Economics of Regulation*. Vol. 1. (1988). Cambridge, MA: MIT Press, 115-116.

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Inflation Trackers: Take Away Points

- **Inflation allowances should be rejected out of hand. Entirely inconsistent with sound regulatory and economic principles.**
- **Proposals will do nothing but increase costs to ratepayers.**
- **Inflation adjustments should only be considered within the context of a PBR or other incentive/performance based mechanisms that offers benefits to customers.**

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Weather Adjustment Analysis

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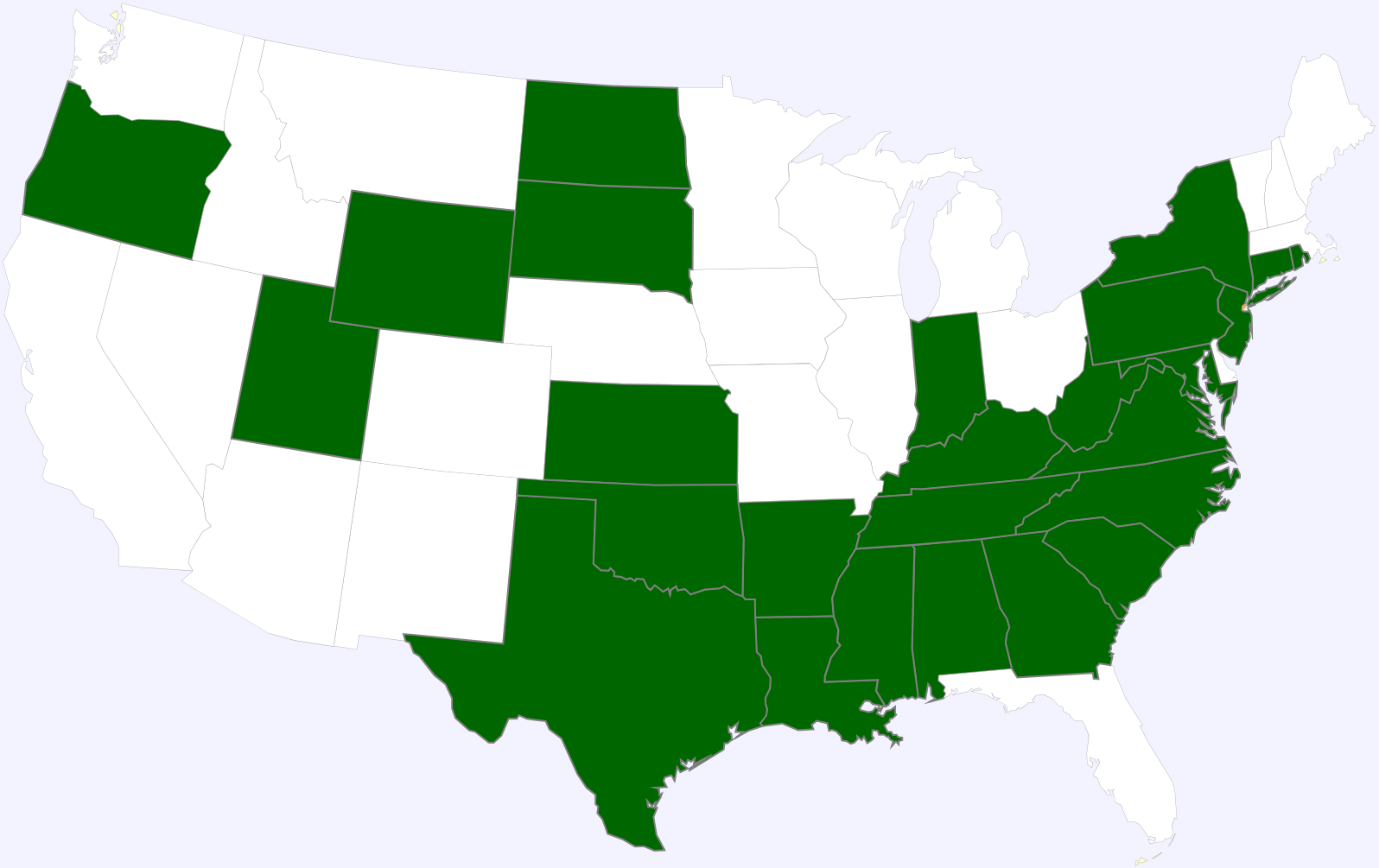
Weather Normalization Adjustment Mechanisms

25 states with WNA clauses.



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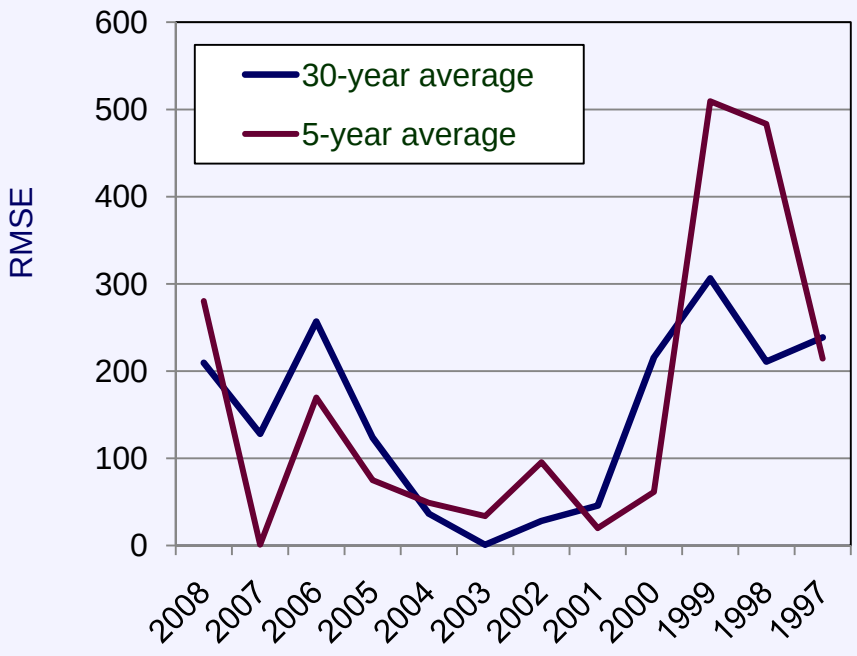
RMSE Comparison

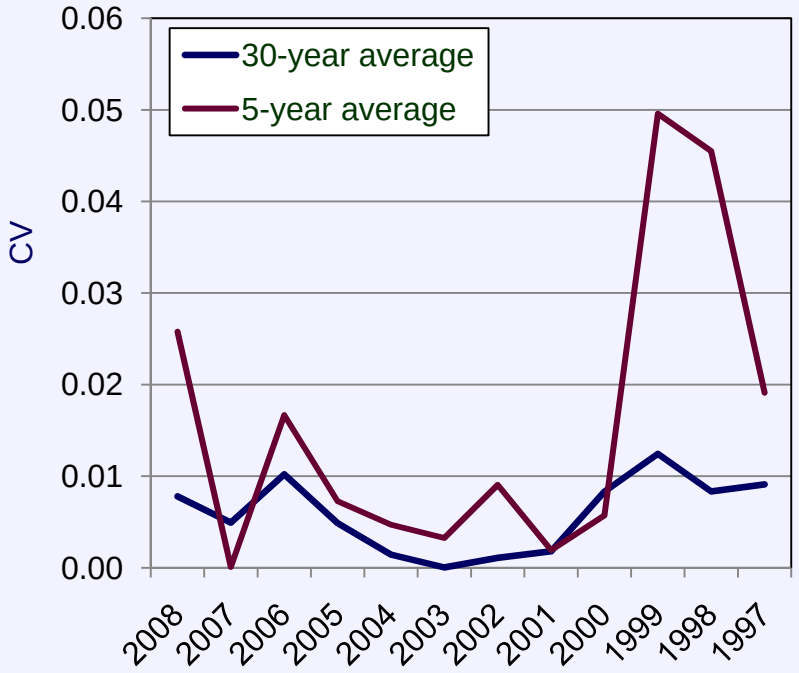
A comparison of the RMSE shows that often, the benefits of 30 year average and 5 year (or shorter) average are offsetting and depends on period examined.

CV shows that the longer run trends are more stable.

RMSE



Coefficient of Variation



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Southern Connecticut Gas ROE Comparison (With and Without WNA)

Year	Percent ROE with WNA	Percent ROE without WNA	Difference
1994	11.97%	12.05%	0.08%
1995	11.34%	9.79%	-1.55%
1996	12.38%	13.52%	1.14%
1997	12.35%	11.71%	-0.64%
1998	11.53%	8.19%	-3.34%
1999	12.46%	10.48%	-1.98%
2000	12.74%	12.28%	-0.46%
2001	15.05%	13.80%	-1.25%
2002	8.49%	6.40%	-2.09%
2003	10.44%	11.57%	1.13%
2004	10.84%	10.45%	-0.39%
2005	7.42%	7.05%	-0.37%
2006	7.04%	5.13%	-1.91%
2007	11.93%	10.98%	-0.95%
2008	11.27%	9.84%	-1.43%
Average	**11.15%**	**10.22%**	**-0.93%**

Connecticut DPUC found that SCG's WNA had not equally benefited ratepayers and the Company.

During the time SCG's WNA was in place, SCG received a total of $43.6 million in net WNA revenue.

Ratepayers benefited in only three of the 15-plus years. Further, the Company's ROE benefited significantly.

The average ROE with the WNA was 11.15% versus 10.22% without a WNA, an increase of 93 basis points.

Source: Application of the Southern Connecticut Gas Company for a rate increase. Connecticut Department of Public Utility Control. Docket No. 08-12-07. July 17, 2009.

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WNA: Take Away Points

- **Utilities are asking for free weather derivative and cost of this instrument needs to be considered.**
- **Even if the weather "balances" on average, these mechanisms are likely to not be symmetrical in the "expected utility" received by the contracting parties.**
- **In other words, the expected (dis)utility of weather-related revenue losses to the utility are not likely to be the same as the expected utility of foregone rate decreases, and vice versa, even if HDDs are equally balanced.**

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Questions, Comments, & Discussion

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