



Facilitating Energy Efficiency and Conservation: Non-Volumetric Rate Designs

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May 1, 2008

Natural Gas Utility Costs

Natural Gas Supply Costs

- Volumetric Costs
- 70% of Utility Revenue

Distribution Costs

- Fixed Costs
 - 30% of Utility Revenue
- Includes:
- ✓ Customer Service
 - ✓ Operations
 - ✓ Maintenance
 - ✓ Depreciation
 - ✓ Taxes
 - ✓ Return on property used to provide service



U.S. Natural Gas Customer Usage and Investment (Distribution Sector)

15 million new residential customers from 1980 to 2005

\$96 billion in new construction from 1980 to 2005

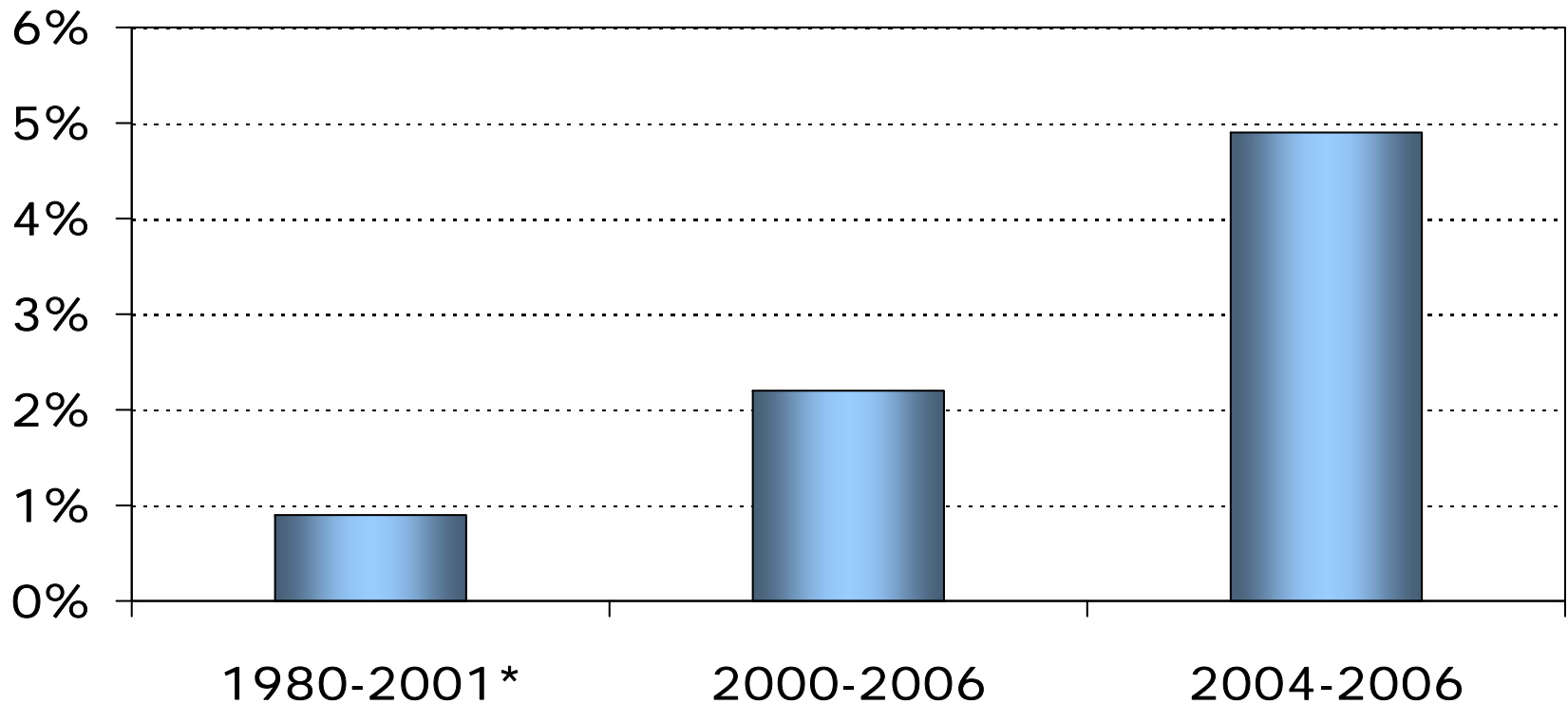
1980 total residential consumption = 4.7 Tcf

2005 total residential consumption = 4.8 Tcf

U.S. TREND: Declining Use Per Customer



AVERAGE ANNUAL DECLINE IN WEATHER NORMAL GAS USE PER CUSTOMER



Total per customer consumption decreased 33 percent between 1980 and 2006



* 2004 AGA Energy Analysis: Patterns in Residential Natural Gas Consumption, 1980-2001

Traditional Rate Design

- 19th century rate design
- Volumetric – each unit of **natural gas** is assigned a pro-rata share of **distribution** costs
- Implies **distribution** revenue recovery only if customers don't conserve **natural gas**
 - Increasing **natural gas sales** is a major objective of traditional rate design
 - Contains a financial disincentive for aggressively promoting energy efficiency and **natural gas conservation**



Why Non-Volumetric Rate Design?

- High and volatile natural gas prices
- Global climate change
- Energy resource conservation
- Utility sponsored efficiency programs

New Paradigm: Regulatory Goal is Shifting From Building Distribution Infrastructure to Encouraging Efficient Use of Resources



Regulatory and Policy Changes

- 2007 Energy Independence and Security Act – December 19, 2007
- 2006 DOE/EPA/NARUC National Action Plan for Energy Efficiency
 - Utility Incentives
 - Innovative Ratemaking
- 2005 Nov NARUC Resolution on Energy Efficiency and Innovative Rate Design
 - Urged utility regulators to consider innovative natural gas rate mechanisms to increase energy conservation and reduce customers' bills.
- 2004 NRDC/AGA Policy Statement
 - PUCs should consider gas utility rate proposals and other innovative programs that remove the disincentives for encouraging conservation.
 - Endorsed by NARUC, the Alliance to Save Energy and ACEEE
- State Legislative Changes
 - New Laws: Connecticut, Minnesota, Missouri, Nevada, New York, South Carolina, and Virginia
 - Pending Legislation: Illinois, New Jersey, Ohio



Types of Non-Volumetric Rates

Revenue Decoupling

Weather Normalization (partial decoupling)

Rate Stabilization Tariffs

Flat Monthly Fee and Variants

- Fixed Monthly Distribution Charge
- Two-Tier Customer Charge
- Straight Fixed Variable (Demand Rate)
- Modified Rate Blocks

43 million customers being served under non-volumetric rates



Revenue Decoupling

- Breaks the link between distribution service cost recovery and energy usage of customers
- Annual adjustments meet pre-established revenue targets but no adjustment for changes in costs
- Symmetrical - prevents the utility from increasing revenues by increasing sales
- Additional distribution charges are refunded to customers
- Standard bill components retained:
 - fixed monthly service charge
 - volumetric distribution charge
 - volumetric commodity pass-through charge
- Symmetrical tracking charge added
- ***Decoupling is NOT incentive regulation – there is no reward or bonus for the utility***



Decoupling Calculation

A Representative Example – Average Usage

\$300,000,000 Annual Distribution Service Cost
1,000,000 Residential Customers
100 Mcf per customer per year

Per Mcf (Volumetric)

- 100,000,000 Mcf/yr - Total System Throughput
- \$3 Distribution Charge/Mcf

Per Customer (Non-volumetric)

- 1,000,000 Residential Customers
- \$300 Distribution Charge/customer



Decoupling Calculation (Cont)

Traditional Rate Design

5% volume reduction

- 95 Mcf/Cust./yr
- x\$3 Dist. Chg/Mcf
- \$285 Rev/Cust.
- \$15 Rev Shortfall
- \$15 Loss in Yr 1

- No rate adjustment in Yr 2

Revenue Decoupling

5% volume reduction

- 95 Mcf/Cust./yr
- x\$3 Dist. Chg/Mcf
- \$285 Rev/Cust. in Yr 1
- \$15 Rev Shortfall
- 100 Mcf/Cust./Yr
- x\$3.15/Dist. Chg/Mcf

- \$315 Rev/Cust. in Yr 2
- \$15 Rev Adjustment in Yr 2



Decoupling Tariffs (as of March 2008)

APPROVED - 13 States

1. AR – Arkansas Oklahoma
2. AR – Arkansas Western
3. AR – CenterPoint Energy
4. CO – PSC of Colorado
5. CA – Pacific Gas and Electric
6. CA - San Diego Gas and Elec.
7. CA – Southern California Gas
8. CA – Southwest Gas
- 9 & 10 IL – Integrys - Peoples Gas/North Shore Gas
11. IN – Citizens Gas & Coke
- 12 & 13 IN – Vectren Indiana/ Southern Indiana
14. MD – Baltimore Gas and Elec.
15. MD – Washington Gas
16. NJ – NJ Natural Gas
17. NJ – South Jersey Gas
18. NY – Consolidated Edison
19. NY – National Fuel Gas Dist.
20. OH – Vectren Ohio
21. OR – Cascade Natural Gas
22. OR – NW Natural Gas
23. NC - Piedmont Natural Gas
24. UT – Questar Gas
25. WA – Avista
26. WA – Cascade Natural Gas

20 Million Residential Customers



PENDING - 5 Additional States

1. AZ – Southwest Gas
2. AZ – UNS Gas
3. DE – Chesapeake Utilities
4. IL – CILCO
5. IL – CIPS
6. IL – Illinois Power
7. IL - Nicor
8. KS – Atmos Energy
9. NC – PS Co. of North Carolina
10. MA – Generic Proceeding
11. OH – East Ohio Gas
12. OH – Duke Energy Ohio
13. WA – NW Natural Gas

5 Million Residential Customers

** Of 63 Million Customers in U.S. **



Does Decoupling Work? The California Experience

- California began natural gas decoupling in 1978 and electric decoupling in 1982
- Since 1974, California has held its per capita energy consumption essentially constant, while energy use per person for the United States overall has jumped 50 percent.



Decoupling: The Oregon Experience

PUC-Required Study* Found Decoupling Tariff:

- An effective means of reducing NW Natural's disincentive to promote energy efficiency
- Changed company focus from marketing to promoting energy efficiency
- Resulted in no deterioration of customer service
 - No customer complaints received regarding decoupling tariff
- Improved NW Natural's ability to recover fixed costs
- Did not shift risk to customers

Oregon now has the highest share of high-efficiency furnaces in the nation (as a percentage of new furnace sales)

* Analysis conducted by Christensen Associates (2005)



Flat Monthly Fee Rate Design

Same Outcomes as Decoupling

Approved

- GA – Atlanta Gas Light – Individually determined monthly demand charge (Straight Fixed Variable)
- MO – Missouri Gas Energy - \$24.69 monthly charge; also other Missouri utilities
- MO – Laclede Gas – Modified rate blocks
- ND – Xcel Energy – Flat fee of \$18.48 per month
- OK - ONEOK – Two-tier plan – Offers customers a choice

Pending

- GA – Atmos Energy – Flat fee
- OH – Columbia Gas – Flat fee
- WI – Wisconsin Power and Light – Flat fee

Four million customers served under this rate design



What's In Flat Monthly Fee Rate Design for the Customer?

- No overpayment or underpayment of monthly distribution charge
- Improved bill stability compared to both traditional rate design and decoupling
- Pricing similar to other consumer services
 - telephone, cable, and internet
- Bills are simpler and easier to understand
- Bill variability due to natural gas energy prices is transparent to the customer
 - **Only price signal that is meaningful**



Rate Stabilization Mechanism

- Decouples utility rates from natural gas throughput by adjusting rates to meet pre-established and authorized rate targets
- Regulatory review utilizes an expedited revenue study, as well as an expedited cost study
- NOT incentive regulation -- no reward is granted for meeting performance targets
- Expedites utility infrastructure investment between rate cases
- Symmetrical - shares efficiency savings with customers
- FERC-regulated electric transmission companies use RS

Streamlines ratemaking process and costs of utility regulation



Rate Stabilization Tariffs

(as of March 2008)

APPROVED

1. AL – Alabama Gas
2. AL – Mobile Gas
3. MS – Atmos Energy
4. MS – CenterPoint Energy
5. LA – Atmos Energy
6. LA – CenterPoint Energy
7. LA – Entergy
8. OK – CenterPoint Energy
9. SC – Piedmont Natural Gas
10. SC – South Carolina E&G
11. TX – CenterPoint Energy

PENDING

1. TX – Atmos Energy

3 Million Residential Customers

** Of 63 Million Customers in U.S. **



What's In Non-Volumetric Rates for the Customer?

- Bill stability in only area of costs that the utility controls
- Lower overall bills from natural gas conservation
- **NO** additional costs to the customer beyond those approved in the rate case
- Possible reduction of commodity prices as lower demand leads to lower prices
 - 2003 ACEEE study projected 20% decline in gas prices from reduction in natural gas consumption of 1.9% and electricity consumption of 2.2%



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