



Expanding Distribution Gas Lines to Meet Demand: Some Issues

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The Demand for Extending Gas Service

- Low natural gas prices relative to other energy prices, especially for oil and propane
- Other consumer benefits from switching to gas
- For many energy consumers, a quick payback (e.g., 2-3 years) from converting to natural gas
- Potential public benefits in bolstering economic development and a cleaner environment
- Demand centered in New England, New York, outer suburban and rural areas in other regions of the country
- Demand in both unserved and underserved areas

Traditional State Practices

- The economic test (e.g., NPV, IRR, net revenue) determines cost allocation of new pipes between existing customers and new customers
- The portion of costs failing the economic test gets passed on to new customers
- New customers often pay CIAC to the utility in a lump sum
- Minimal utility assistance for fuel switching
- Utilities focus on serving new customers in suburban areas and not remote locations
- Utilities build new line only after a sufficient number of customers commit

- Assumption of no public benefits
- Conservative economic tests:
 - They tend to understate the full benefits of gas line extensions on a utility and existing customers
 - They, therefore, overstate the upfront required payments from new customers
- Rationale and outcomes
 - ✓ The “no burden” standard
 - ✓ New customers pay “excess” costs
 - ✓ Utilities play a passive role
 - ✓ Utilities arguably underinvesting in new line extensions

Things Have Changed

- The abundance of shale gas (the era of scarce gas supplies with high and volatile prices, we expect or at least hope, is behind us)
- Increase in gas usage more socially desirable
- Large economic advantage of natural gas over some competing fuels
- Meeting demand to expand gas lines into remote areas require substantial investments
- Potentially large public benefits from economic development and a cleaner environment

Regulatory Issues

- Rolled-in v incremental pricing
- Effect on existing customers
- Economics of fuel switching
- Economic test for line extensions
- Utility incentives for extending lines
- Utility promotion and marketing
- New-customer contributions
- Cost recovery for a utility
- Building-out ahead of customer commitment
- Subsidization of new customers
- Role of local, regional and state governments

Rolled-in v Incremental Pricing

- Commissions generally approve rolled-in pricing when a new investment benefits all customers, or when demand by all customers creates the need for a new investment
 - One example is a gas utility investing in new storage capability to meet the growing demand of its customers
 - Because the investment would benefit all customers, it would be appropriate to roll-in the costs into the rates of all customers
 - Under *rolled-in pricing*, the utility adds the costs of line extensions to existing costs with prices to all customers based on this sum; new and existing customers face the same price

Rolled-in v Incremental Pricing *continued*

- Although lowering the cost of fuel switching to new customers, rolled-in pricing would produce undesirable outcomes
 - New customers would see poor price signals that can result in excessive fuel switching to natural gas
 - This price would place other energy providers at a competitive disadvantage
 - Existing customers would be worse off, as charging new customers below incremental cost essentially increases rates for existing customers to the benefit of new customers
 - Overall, rolled-in pricing would seem to violate the “balancing act” of public utility regulation

Possible Obstacles: The Basis for New Actions

- **It takes two to tango**

- Willingness of energy consumers to convert to natural gas
- Development of an adequate infrastructure to serve new customers

- **Public utility regulation-driven**

- Biasness against gas demand growth
- Pricing rigidity (e.g., incremental pricing under all conditions, no promotional pricing)
- Excessive risk for utilities from uncertain/untimely cost recovery
- Limitation on the utility's role to facilitate fuel switching

Possible Obstacles *continued*

- **Market-driven**

- Inertia
- Information deficiency
- Uncertainty of the benefits
- High initial costs
- High transaction costs
- Capital constraints

- **Utility-driven**

- Economic tests understating the benefits
- High upfront CIAC
- No explicit strategy to bolster fuel switching
- Minimalist role (e.g., passive utility)

New Approaches: Demand-Side

- *Proactive* utility in marketing gas, financing conversion, disseminating information, amortizing required CIAC, facilitating market transactions (**the utility acts as a catalyst in bolstering fuel switching**)
- *Proactive* public utility commission in promoting fuel switching e.g., (elevating the status of fuel switching to that of energy efficiency)
- Customer incentives or rebates for gas conversion and high energy-efficiency gas appliances
- Promotional pricing (e.g., offering temporary lower prices to new customers)
- *Proactive* government collaborating with utilities

New Approaches: Supply-Side

- Mitigation of uncertain and untimely cost recovery for line extensions (e.g., infrastructure surcharge)
- Less restrictive economic tests (e.g., longer time horizon)
- CIAC payments over time
- Uniform statewide tariff and policy on gas line extensions

Specific Public Utility Commission Actions

- Promote fuel switching with the same vigor shown for energy efficiency
- Initiate workshops and technical conferences on fuel switching and gas line extensions
- Revisit long-standing rules, policies and tariffs
- Include fuel switching as a planning option
- *Develop guidelines on:*
 - ❖ Criteria for acceptable investments in pipe expansion
 - ❖ Commission procedures for reviewing and evaluating proposed expansions
 - ❖ Cost allocation
 - ❖ Ratemaking treatment of costs
 - ❖ Utility role
 - ❖ Conditions under which the commission would favor system expansions and allow full recovery of costs

The Role of State and Local Government

- *Rationale*

- ❖ Market forces are not accounting for the public benefits, or
- ❖ Market obstacles are stifling the amount of switching
- ❖ Either condition may result in too little fuel switching
- ❖ Governments often provide financial support for investments that benefit the public but are unprofitable to the private sector

The Role of Government

□ *continued*

- Public-private partnership (e.g., rural governments working with utilities to deliver gas to remote areas, financial support from county, regional and state governments)
- Funding of large investments in unserved areas
- Provide financial assistance to energy consumers who switch to natural gas
- Fiscal actions
 - Tax increment financing
 - Tax rebates
 - Economic development grants
 - State-backed bonds
- Reduce market obstacles for energy consumers
- Include fuel switching as part of the state's energy policy

Caution on Subsidies

- Subsidies for fuel switching or gas line extensions, funded by either utility customers or taxpayers, can have adverse effects if not adequately supported or structured properly; they can be
 - ❑ Unfair to existing customers
 - ❑ Economically inefficient
 - ❑ Unfair to competing energy sources
 - ❑ Overall, unfair and not cost-beneficial from a societal perspective

Gas-Line Extension Activities in Seven States

State	Activity
Connecticut	<ul style="list-style-type: none"> ▪ Aggressive fuel-switching plan in the state's draft energy strategy ▪ Proposed build-out plan by Northeast Utilities
Delaware	<ul style="list-style-type: none"> ▪ Chesapeake Utility's hybrid pricing proposal before the Public Service Commission; the utility also proposed other services to facilitate fuel switching ▪ Gas-service expansion as part of a recommended state energy strategy
Maine	<ul style="list-style-type: none"> ▪ Intense competition among gas companies to serve new areas ▪ High demand for gas in remote and other unserved areas ▪ Legislation authorizing issuance of general fund bonds for gas expansions
Minnesota	<ul style="list-style-type: none"> ▪ Back in the early 1990s, the Public Utilities Commission's investigation of the unique problems in funding new extension lines in remote areas
Nebraska	<ul style="list-style-type: none"> ▪ Establishment of a process to allow communities and gas utilities to advocate before the Public Service Commission for gas-infrastructure development
New York	<ul style="list-style-type: none"> ▪ Public Service Commission-initiated technical conference on policies for expansion of natural gas service ▪ Recommendation for fuel switching to natural gas in the Governor's Energy Highway "Blueprint"
N Carolina	<ul style="list-style-type: none"> ▪ Natural gas bonds for uneconomic line extensions ▪ Expansion funds for uneconomic line extensions
Vermont	<ul style="list-style-type: none"> ▪ Ratepayer funding of planning and development for service

Presentation adapted from NRRI paper (NRRI-13-01) “**Line Extensions for Natural Gas: Regulatory Considerations**”