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Under Pressure: Gas Utility Regulation for a Time of Transition

Joint NARUC ERE/Gas Committee Presentation

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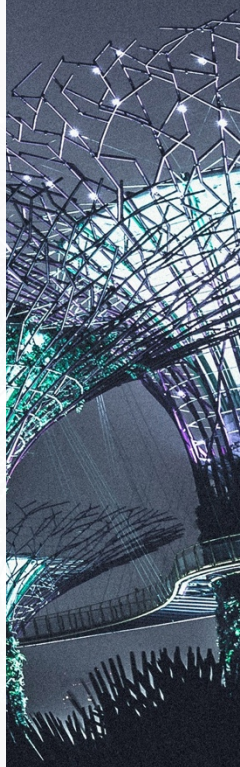
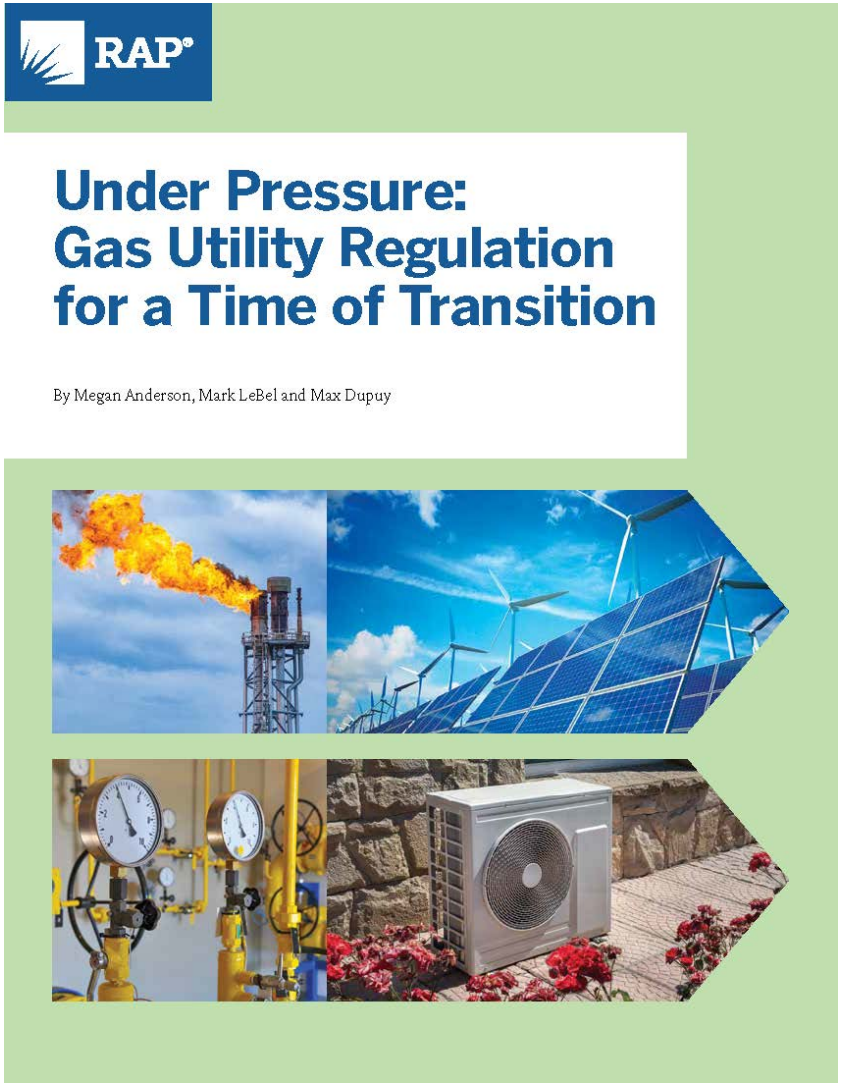




https://www.raponline.org/knowledge-center/under-pressure-gas-utility-regulation-for-a-time-of-transition/

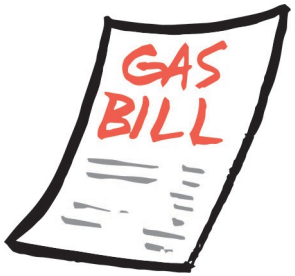
Key Issues and Trends

- More efficient gas usage
- Increasingly economic electrification
- More stringent climate policies
- Limited clean gas alternatives
- Health and safety concerns

A Framework for Regulators

Revitalize Gas Utility Planning

Enhance EE and Electrification Programs

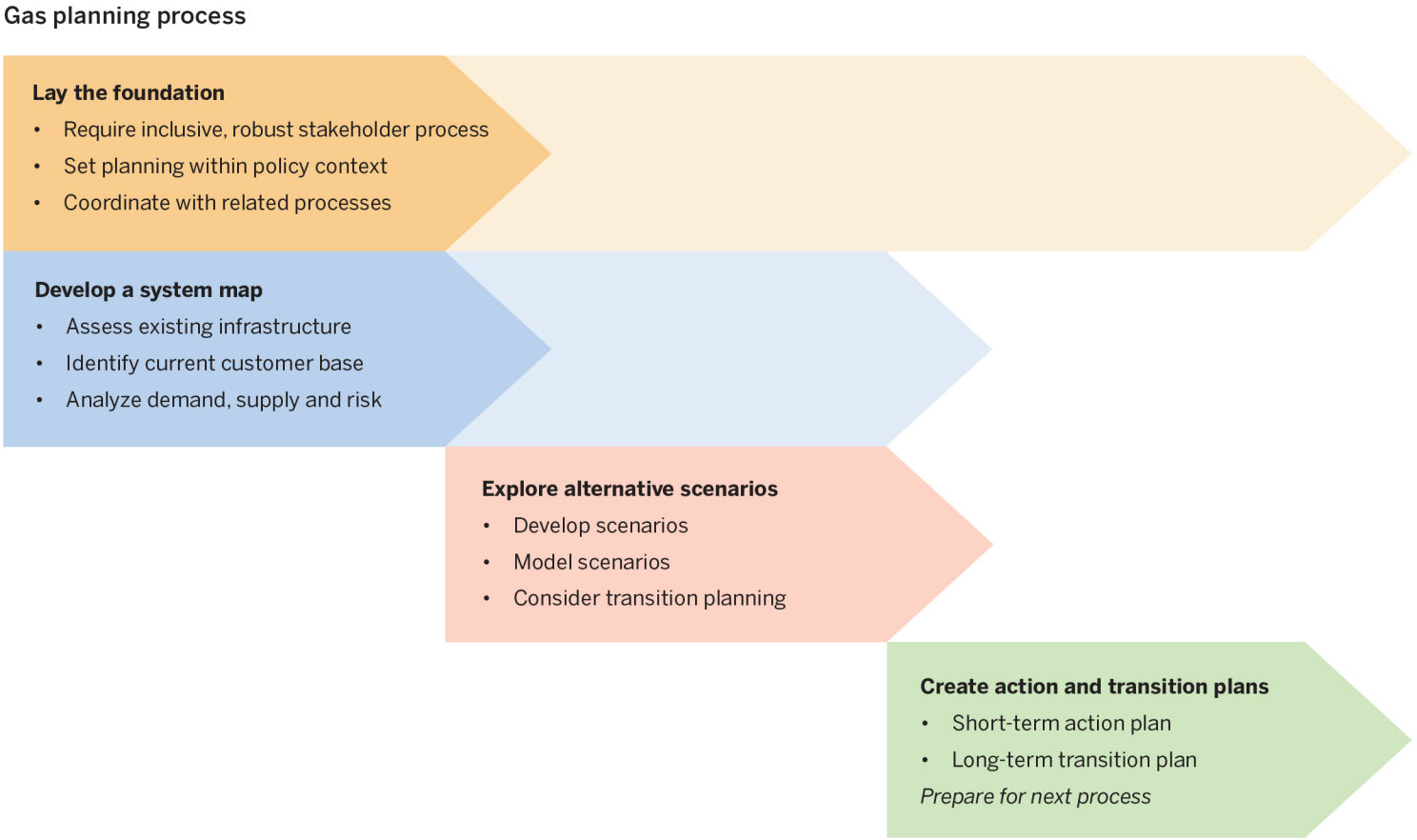


Reform Gas Rate-Making

Equity Is Integral

- Robust and inclusive processes to ensure that everyone's needs are considered and planned for
- Programs that are accessible and put disadvantaged communities at the forefront of the transition to clean energy
- Rate-making reforms can mitigate risk of unsustainable rate increases and avoid unfair bill impacts on low-income customers

Revitalize Gas Planning Process



Enhance EE and Electrification Programs

- Eliminate barriers to electrification
- Expand and coordinate programs to reduce costs and improve equity
- Unlock non-pipeline solutions
- Target alternatives geographically to enable gas infrastructure retirement

Key Rate-Making Principles

- Effective recovery of revenue requirement
- Customer understanding, acceptance, and bill stability
- Equitable allocation of costs
- Efficient forward-looking price signals
- Achievement of public policy goals
  - Efficient competition and control of monopoly pricing
  - Reliable provision of service
  - Societal equity (e.g., universal access and affordability)
  - Environmental and public health requirements

Lower Rate Base and Decrease Risk of Rate Impacts

1. Increase customer contributions to line extensions
2. Accelerate depreciation timelines
3. Improve planning and decision criteria for new investments (and contracts)
4. Secure alternative funding sources or authorization for securitization

Equitable Cost Allocation

- Customer-related costs should be determined using the basic customer method, not the minimum system method
- Recovery of shared capacity costs should be balanced between energy throughput and peak demand based on load patterns
- Program costs can be allocated based on the benefits provided by the investments
  - For some programs, a split between electric customers and gas customers is appropriate when feasible

Efficient Rate Design

- Higher prices in peak seasons are appropriate
- Even higher prices or incentives to reduce on peak days are appropriate for many customers
- Inclining block structures that vary by season can balance efficiency and concerns about bill impacts for low-income gas heating customers

Distribution Rate	Summer	Winter
First 20 therms	$0.50 per therm	N/A
First 60 therms	N/A	$0.50 per therm
Additional usage	$1.29 per therm	$1.29 per therm

Change Utility Incentives

- Adopt decoupling using overall revenue target, not revenue per customer
- Implement performance-based regulation
  - Multiyear rate plans
  - Eliminate unnecessary trackers
  - Performance incentives for achieving important consumer and public policy outcomes
- Consider whether broader structural reforms for the gas LDC will be necessary

A *safe* transition is a *planned* transition.

An *environmentally responsible* transition is a *planned* transition.

An *affordable* transition is a *planned* transition.

An *equitable* transition is a *planned* transition.

About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org

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Buildings sector

Summary of this section

- In residential buildings:
  - The use of natural gas for space and water heating and cooking is nearly fully replaced by electricity by 2050 across the net-zero transitions, and final energy use is dramatically lower as a result of heating (and air conditioning) using heat pumps.
  - The market penetration of heat pumps for heating/cooling is highest in warmer climate regions. They are also adopted in colder regions, although they operate somewhat less efficiently.
  - The first-cost premium for space and water heating in the net-zero pathways is $60 to $70 billion in aggregate for the country in the 2020s compared with REF, or 12% to 13% more. The increase is modest because heat pumps heat and cool using the same device, unlike gas-fired heaters.
- Commercial sector final energy use also declines, but not as significantly as for the residential sector:
  - Electricity replaces natural gas in space conditioning, with growing contributions from heat pumps, but also growth in electric resistance heat for which efficiency gains are not as significant as for heat pumps. Electric cooking also grows.
  - The first-cost premium for space and water heating and ventilation in the net-zero pathways is about $110 billion in aggregate for the country from 2021-2030 compared with REF, an increase of about 5%.

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High Meadows Environmental Institute | Carbon Mitigation Initiative

Page 56: https://netzeroamerica.princeton.edu/img/Princeton_NZA_Interim_Report_15_Dec_2020_FINAL.pdf

Use of Decarbonized Fuels in Buildings

The use of decarbonized combustion fuels as a potential alternative to the electrification of building heat in the Northeast was explored in detail in the Roadmap Study.[28] As detailed in the *Energy Pathways Report*, the Commonwealth could achieve Net Zero emissions by 2050 if it used a blend of fossil gas, hydrogen and zero-carbon gas, while relying on near complete decarbonization in all other sectors. Due to low primary energy efficiency (illustrated in Figure 11)[29], limited availability of biomass supplies, and competing decarbonized fuel uses (e.g. air travel), such fuels are expected to be expensive relative to fossil fuels today or direct electricity use in the future. As a result, even with anticipated breakthroughs in decarbonized fuel production, heat pumps or other electrified solutions appear to be a cost-effective decarbonization strategy for many residential and commercial heating systems.

Page 50: https://www.mass.gov/doc/ma-2050-decarbonization-roadmap/download