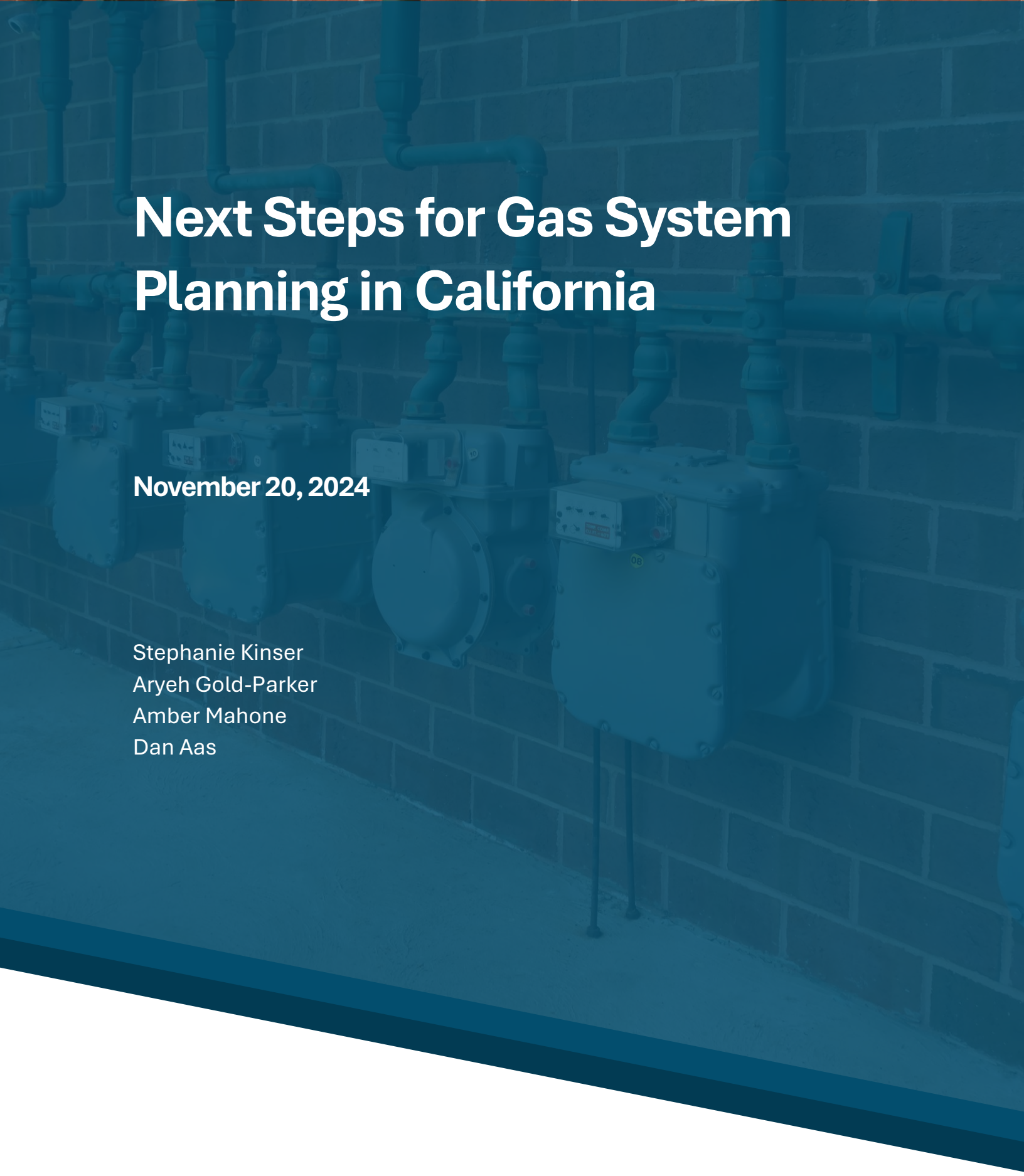

Next Steps for Gas System Planning in California

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Acronym Definitions

Acronym	Definition
BCA	Benefit-Cost Analysis
CARB	California Air Resources Board
CEC	California Energy Commission
CPUC	California Public Utilities Commission
DPU	Department of Public Utilities (Massachusetts)
GHG	Greenhouse Gas
GIP	Gas Infrastructure Plan
IRP	Integrated Resource Plan
LDC	Local Gas Distribution Company
NPA	Non-Pipeline Alternative
OET	Office of Energy Transformation (Massachusetts)
PSCo	Public Service Company of Colorado
PUC	Public Utilities Commission
RG	Renewable Gas
UTC	Utilities and Transportation Commission (Washington)

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Executive Summary

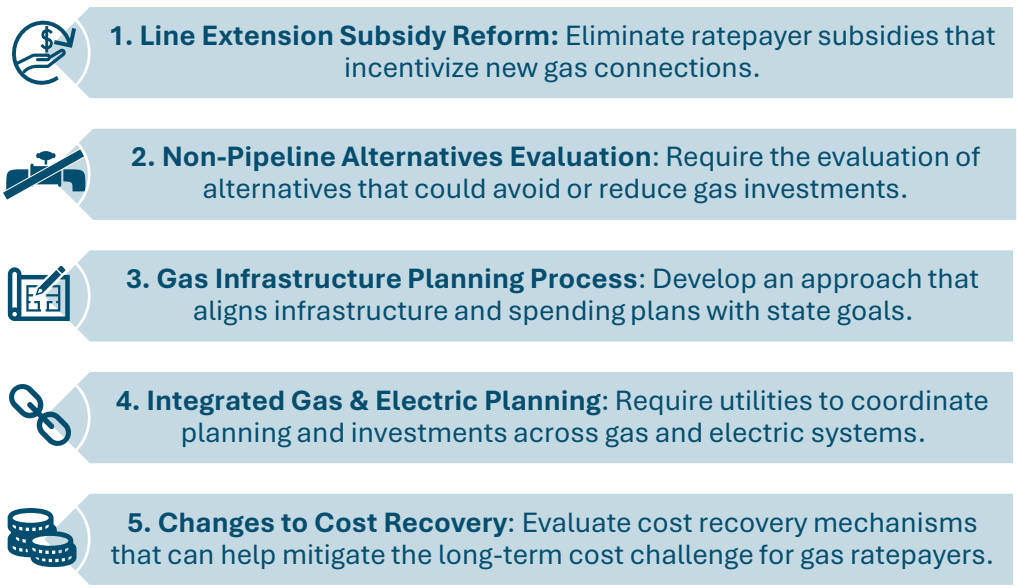
Decarbonizing the building sector through electrification is a critical part of California's plan to reach its net zero greenhouse gas (GHG) emissions goals, as described in the California Air Resources Board (CARB) AB 32 Climate Change Scoping Plan. High levels of building electrification will result in significantly less reliance on the gas distribution system and a declining gas customer base. However, California's gas utilities continue to invest billions of dollars in capital investments each year to maintain the system's safety and reliability. These conflicting dynamics present a substantial challenge to cost recovery for gas utilities and ratepayers, as the growing costs of the gas system will be spread across fewer customers as electrification advances. A managed transition for gas utilities and gas infrastructure is critical to mitigate adverse cost impacts for gas ratepayers.

Although California was an early leader in identifying the need for a gas transition, other states have since implemented a range of actions to manage gas system spending and update cost recovery mechanisms to support a managed transition. This presents an opportunity to learn from other states, including both their successes and challenges.

In 2024, the California Public Utilities Commission (CPUC) closed and relaunched the Long-Term Gas Planning proceeding (R. 24-09-012). The reboot of this proceeding creates an opportunity to address critical decisions on gas infrastructure spending and cost recovery and, in the process, re-establish California as a leader in planning for the gas transition.

Figure 1 summarizes five key gas transition actions based on our review of gas transition proceedings in other states. California has already made important progress on number 1: eliminating gas line extension subsidies. We recommend the new gas planning proceeding focus near-term attention on numbers 2-5.

Figure 1. Key Gas Transition Actions



To ensure the successful implementation of these actions, we further recommend that the proceeding consider three categories of metrics: **rates and affordability**, **safety and reliability**, and **equity**. Monitoring these metrics will help determine whether regulatory actions and utility outcomes are meeting intended goals and will inform how planning and regulation may need to be adjusted over time.

Additional objectives for the proceeding will be valuable but do not share the same urgency. Two particular steps may help provide guidance for planning and evaluating future efforts for the gas transition: 1) gas utility long-term decarbonization planning, and 2) sector-specific GHG target setting. Existing state plans, such as the CARB Scoping Plan and the California Energy Commission (CEC) Demand Scenarios and Integrated Energy Policy Report, can provide policy direction on GHG reduction strategies and targets and can be used to guide planning in the interim. The potential future development of utility decarbonization plans and sector-specific targets should not delay actions that are needed in the near term to manage transition costs.

Finally, there are important long-term considerations for gas planning that will become relevant once we see a meaningful reduction in gas investment and gas system throughput. Workforce transition plans, the treatment of stranded assets, and the long-term viability of the gas utility business model will likely arise as critical issues once gas demand begins to contract, and these issues are worth discussing in the long-term gas planning proceeding.

The scale of the cost challenge continues to grow as utilities invest greater sums in the gas system every year. This report discusses instructive examples from other states to guide California's relaunched gas planning proceeding. This proceeding provides an opportunity to take decisive actions and work toward a managed transition for the gas system.

The State of Gas Transition Planning in California

Gas Transition in California

California was one of the first states in the nation to adopt an economywide net zero greenhouse gas (GHG) emissions target. Achieving this goal will require major changes in the way that energy is delivered and consumed across all sectors of the economy. One dramatic transformation will be in the state's natural gas delivery system.

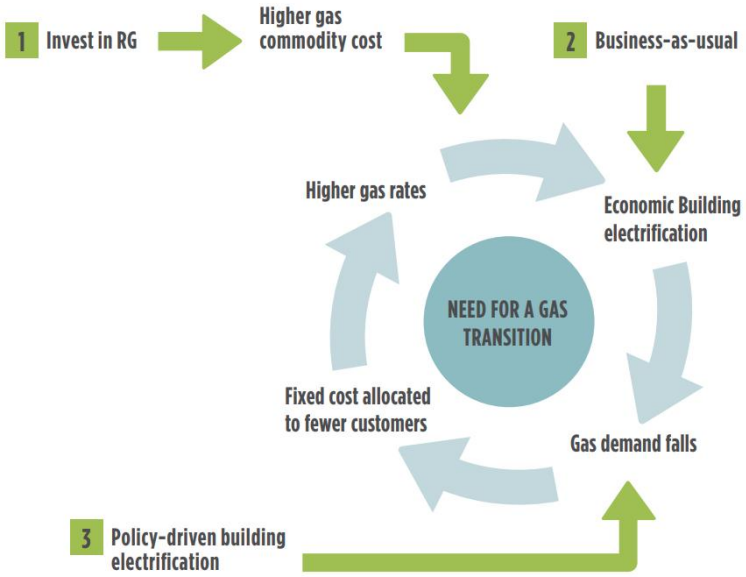
California's gas utilities maintain a massive system of infrastructure, spanning nearly the entire state, that delivers gas to a wide range of customers including homes, commercial buildings, industrial facilities, and electric generators. This includes a large-scale system of transmission and storage infrastructure to transport gas over long distances and store it over seasons, as well as over 200,000 miles of gas distribution mains and services to transport gas within neighborhoods and to connect directly to customer premises.

Building electrification is expected to be the lowest cost and lowest risk option for decarbonizing much of California's building sector. Policymakers and regulators are working to achieve high levels of building electrification through efforts such as upfront heat pump incentives, modernized rate designs, updated building standards, and emissions standards for new appliances.

Although electrification is the state's clear plan for the building sector, in the meantime, California's gas utilities must maintain safe and reliable service for their millions of customers, including for those who cannot easily electrify. To this end, California's gas utilities are investing large sums into the gas system every year. Driven by escalating costs to replace aging and leak-prone gas distribution pipelines, California's gas utilities are investing over $4 billion per year in capital investments and these costs continue to grow.

The dynamics of building electrification and rising costs are expected to create a long-term cost challenge for gas utilities and ratepayers. As electrification leads to fewer gas customers and declining gas demand, the growing costs of the gas system will be spread across fewer customers and lower gas sales. As a result, remaining customers could face significant increases in their gas rates. Any investment in costly renewable gas (RG) would further challenge ratepayer costs. Low-income homeowners, who cannot afford electric alternatives, and renters, who cannot elect these alternatives, are particularly vulnerable to gas rate increases. Figure 2 provides an illustration of this challenge.

Figure 2: Illustration of the Factors that Will Drive a Long-term Cost Challenge for Gas Ratepayers. Source: E3 and Gridworks[1]



"Gas transition" describes the gas system as it undergoes this large-scale transformation. The term also refers to a set of regulatory, policy, and planning changes that can help reduce future gas system spending and manage the costs of the gas system while customers shift to electrification and other decarbonized alternatives.

Responsibility for Overseeing the Gas Transition

In California, responsibility for directing and overseeing the gas transition is shared primarily among the state legislature and three state agencies – the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and the California Air Resources Board (CARB).

Table 1 describes the core responsibilities for each of these entities in gas transition. This table is informed by the 2024 Joint Agency Staff Paper on Gas Transition.[2]

[1] Figure from Gridworks (2019), California's Gas System in Transition. https://gridworks.org/wp-content/uploads/2019/09/GW_Calif-Gas-System-report-1.pdf. Adapted from E3 (2020), The Challenge of Retail Gas in California's Low-Carbon Future. https://www.energy.ca.gov/sites/default/files/2021-06/CEC-500-2019-055-F.pdf.

[2] 2024 Joint Agency Staff Paper: Progress Towards a Gas Transition (2024). https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M542/K040/542040675.PDF

Table 1. Responsibilities of the California Legislature and State Agencies in Directing and Overseeing the Gas Transition

California Legislature		
• Set targets and provide direction for statewide and sector-specific decarbonization strategies		
CPUC	**CEC**	**CARB**
• Regulate utility capital investments and spending • Develop equitable cost recovery mechanisms • Develop rates and programs that incentivize decarbonization • Consider changes in the gas supply to support decarbonization • Ensure safety and reliability through the transition	• Forecast state energy needs • Develop building codes and standards • Administer equitable building decarbonization program • Fund and perform research to support planning and decarbonization	• Develop and update the Scoping Plan • Develop and implement appliance standards • Regulate air quality in the state

CPUC Oversight of the Gas Transition

To date, the CPUC has directed changes regarding gas transition through three sets of proceedings: the Renewable Gas proceedings (R. 13-02-008 and related proceedings and applications), the Building Decarbonization proceeding (R. 19-01-011), and the Long-Term Gas Planning proceeding (R. 20-01-007 and successor proceeding R. 24-09-012). Table 2 describes the context for each proceeding and how it relates to gas transition.

Table 2: Three CPUC Proceedings that Oversee the Gas Transition

	Renewable Gas *R. 13-02-008 and related proceedings*	**Building Decarbonization** *R. 19-01-011*	**Long-Term Gas Planning** *R. 20-01-007 (closed)* *R. 24-09-012 (successor)*
Dates Active	Feb 2013 – Present (Still active)	Jan 2019 – Present (Still active)	Jan 2020 – Sep 2024; "Successor" proceeding launched Oct 2024
Proceeding Context	• AB 1900 (2012): required ensuring safety of injecting biomethane into the gas pipeline system and allowing open access to biomethane producers • SB 1440: required the CPUC to set biomethane procurement targets	• SB 1477 (2018): required two new programs (BUILD and TECH) • AB 3232: required the CEC to assess building emissions reductions	• Initial focus on reliability and markets • Key context: Safety-related incidents (San Bruno, Aliso Canyon), operational concerns, and summer electric reliability concerns
Highlights for the Gas Transition	• Established biomethane procurement targets for gas utilities • Ordered pilot programs to test hydrogen blending in natural gas pipelines	• Established BUILD and TECH programs • Ended gas and electric line extension subsidies for mixed-fuel construction • New phase taking on service upsizing, zonal decarbonization, and a "building decarbonization action plan"	• Gas general order requires reporting and review for very large projects (>$50-75M) • Public release of gas utility infrastructure data by census tract • Staff proposal on gas decommissioning

Each of these proceedings has advanced important elements of gas transition. However, since its launch in 2020, the long-term gas planning proceeding has not addressed key topics with respect to infrastructure planning and cost recovery. The launch of the "successor" long-term gas planning proceeding represents an opportunity to focus on actions that can mitigate the long-term cost challenge for gas ratepayers.

Recommendations for Scoping California's Long-Term Gas Planning Proceeding

The launch of California's new long-term gas planning proceeding creates an opportunity to move decisively on time-sensitive issues for the gas transition. We reviewed gas transition proceedings in other states to understand successes and challenges that California can learn from. A detailed review of those proceedings is provided in the following section, **Lessons Learned from Other States**.

Based on this review, we first recommend key near-term actions that should be prioritized to mitigate long-term costs to gas ratepayers. Next, we describe two objectives that would be valuable for the proceeding but are not immediately necessary and should not halt progress. Then, we describe key metrics for evaluating and tracking progress. Finally, we describe longer-term issues that merit discussion but do not require immediate action.

Prioritize Near-term Actions

California's gas investor-owned utilities are investing $4 billion per year in the gas system and these costs are rising over time. The continued growth in the cost of the gas system will not be sustainable if gas demand begins to fall, nor is it aligned with a future that has less reliance on natural gas infrastructure.

Some level of rate increases may be unavoidable as costs grow and as customers depart the gas system. However, a managed gas transition can help to mitigate long-term cost impacts to vulnerable customers. Two critical areas require immediate focus for the CPUC: infrastructure planning and cost recovery. Infrastructure planning will help to limit increases in the gas revenue requirement where possible, while changes to cost recovery may help to pay down more of the gas rate base while there is still a large gas customer base.

Table 3 illustrates five focus areas for near-term action based on our review of gas transition planning proceedings. California has already made important progress on number 1: eliminating gas line extension subsidies. We recommend the new gas planning proceeding focus immediate attention on numbers 2-5. Starting with these actions will set California on a path toward safely and strategically reducing investments in the gas system and planning cost recovery to mitigate long-term cost challenges for vulnerable ratepayers. These actions are described briefly below and in more detail in the section **Lessons Learned from Other States.**

Table 3. California's Progress on Critical Gas Transition Actions

Gas Transition Actions	Status
1. **Line Extension Subsidy Reform:** Eliminate ratepayer subsidies that incentivize new gas connections.	**Achieved**
2. **Non-Pipeline Alternatives Evaluation**: Require the evaluation of alternatives that could avoid or reduce gas investments.	**Underway only for largest projects**
3. **Gas Infrastructure Planning Process**: Develop an approach that aligns infrastructure and spending plans with state goals.	**Not started**
4. **Integrated Gas & Electric Planning**: Require utilities to coordinate planning and investments across gas and electric systems.	**Not started**
5. **Changes to Cost Recovery**: Evaluate cost recovery mechanisms that can help mitigate the long-term cost challenge for gas ratepayers.	**Not started**

Line Extension Subsidy Reform. Historically, when new customers wanted to connect to the gas system, the costs of connection would be subsidized by existing gas ratepayers based on the understanding that new connections would deliver margin over time, essentially paying back ratepayers for the subsidy. However, expanding the gas system through new connections is increasingly seen as conflicting with state plans that emphasize building electrification. Reforms to line extension subsidies can help slow the increasing cost of the gas system that are borne by ratepayers.

Non-Pipeline Alternatives Evaluation. Non-pipeline alternatives (NPAs) are opportunities to defer or avoid gas capital investments through an "alternative," helping to mitigate long-term costs for gas ratepayers. NPA frameworks may include project screening criteria, benefit-cost analysis evaluations, utility incentives for NPA implementation, and considerations around stakeholder access to data.

Gas Infrastructure Planning Process. Gas Infrastructure Plans (GIPs) describe a planning process that aims to better align utility capital investment with state and local climate goals. GIPs add oversight into gas investments, aim to align planning assumptions and methodologies with state and stakeholder expectations, and may require utilities to justify capital projects and evaluate NPAs.

Integrated Gas & Electric System Planning. As gas and electricity are increasingly competing to serve the same end uses in buildings, optimal energy system planning will require a coordinated approach to infrastructure planning. Integrated gas and electric system planning requires coordination of planning and investments across gas and electric utilities with overlapping service territories. In addition, integrated planning can consider questions around the sources of funding and incentives for electrification and related investments between gas and electric utilities.

Changes to Cost Recovery. Changes to cost recovery mechanisms for gas system investments can reflect changes to near-term rate designs, e.g., through considering fixed vs. volumetric charges, and

can help to mitigate long-term customer cost impacts through measures such as accelerated depreciation.

Valuable but Less Urgent Objectives

In this section, we describe two objectives that would be valuable for the long-term planning proceeding but are not necessary pre-conditions for the immediate actions described above. These two objectives are developing utility long-term decarbonization plans and setting sector-specific GHG targets.

Gas utility long-term decarbonization plans can be valuable tools to develop a holistic approach for deep decarbonization of the gas system. These plans can explore the impacts of very high levels of electrification on gas infrastructure needs and costs and can help illuminate differences among gas utilities, service territories, and customers. Additionally, these plans can explore approaches to decarbonization of industrial end uses, which may be difficult to electrify, as well as electric generators. Gas utilities may plan to serve decarbonized fuels to these hard-to-electrify customers, which will require infrastructure planning as well as coordination with other relevant CPUC proceedings.

These plans are not a necessary pre-condition to advancing the key actions described above. In fact, a focus on these plans can delay important actions, as we describe in the review of gas transition proceedings in the following section. To the extent that a plan is needed to inform decisions related to gas system investments and cost recovery, state-led planning efforts can be used to guide the proceeding, such as the CARB Scoping Plan or the CEC Demand Scenarios and Integrated Energy Policy Report.

Sector-specific target setting may also be valuable for gas planning. Although California has an economy-wide net zero goal, there are not specific GHG emissions targets established for gas utilities nor for the building sector. Sector-specific targets may help provide a clear signal to gas utilities regarding the level of decarbonization that must be achieved by certain deadlines. These targets could be gas utility emissions targets or building emissions targets, and/or could leverage Governor Newsom's building electrification goals.[3] These targets could be determined in the Gas Planning proceeding or in other venues.

We believe the CPUC has authority to design and plan toward sector-specific targets based on the example of the Integrated Resource Planning proceeding (IRP). In the IRP, the CPUC has established a GHG emissions target for the electric sector that is broadly aligned with economy-wide goals. The CPUC and load-serving entities use this sector-specific target to guide electric resource planning.

[3] Governor's Letter to CARB (July 22, 2022). https://www.gov.ca.gov/wp-content/uploads/2022/07/07.22.2022-Governors-Letter-to-CARB.pdf.

As with gas utility decarbonization plans, sector-specific targets are not a necessary precondition for making progress on gas transition. Similarly, the Scoping Plan can be used as a guiding document to support planning in the absence of sector-specific targets.

While utility long-term gas plans and sector-specific targets could help provide clear direction for gas utilities, neither is necessary to begin moving forward with near-term priorities to address infrastructure planning and cost recovery. The Scoping Plan and other state planning documents like the CEC Demand Scenarios and Integrated Energy Policy Report lay out a clear plan for decarbonization and are sufficient to guide near-term actions until gas utility plans and sector-specific targets are developed.

Key Metrics to Measure Progress

As California's gas transition progresses, monitoring and evaluating key metrics will help ensure the measures stay on track and address their intended goals. As the CPUC makes decisions on priority actions, we recommend that, at a minimum, these three metrics are considered at the outset and are regularly evaluated to inform how planning should be adjusted over time if these metrics indicate that goals are not being met.

- **Rates and Affordability:** A key goal of long-term gas planning is to mitigate long-term cost impacts for vulnerable customers. Tracking current and forecasted gas rates and modeling long-term gas rates is crucial to ensure they remain affordable for customers. Electrification will also have important impacts on electric rates, and these impacts could also be assessed.
- **Safety and Reliability:** Maintaining safe and reliable gas service is a core responsibility of gas utilities today and will remain so throughout the gas transition.
- **Equity:** It is important to ensure that the impacts of the gas transition are not inequitable and do not disproportionately burden disadvantaged communities. Active engagement with these communities is important to understand their concerns and priorities regarding the gas transition.

Longer-term Priorities

A number of topics warrant discussion in the long-term gas planning proceeding but may not require immediate action. These relate to issues that are expected to arise in the future when gas system investment slows and as gas customers and throughput begin to meaningfully decline. Today, as utilities continue to invest in a gas system that serves millions of customers, these issues are not yet pressing. Here, we highlight three longer-term priorities: planning for a workforce transition, considering treatment for stranded assets, and adapting utility business models. This is not intended as a complete list and other important issues may become apparent as the gas transition proceeds.

California's gas utilities employ tens of thousands of high-skilled workers across numerous fields. These are largely well-paid positions and many of these workers are represented by trade unions.

Gas utility employees and contractors hired by utilities are understandably concerned about the long-term outlook for their jobs. Workforce planning will be critical to better understanding the potential impacts of the gas transition to the gas workforce, and over what time horizon those impacts may materialize. An actionable plan is needed to ensure a just transition for the gas utility workforce, even as much of that workforce will likely continue to be needed for decades to come.

Another important long-term consideration is the treatment of stranded assets. The first step to limit stranded assets is to reduce investments in the gas system where feasible by following the near-term actions described above. However, even if these actions are successful, if building electrification continues as planned, there will likely be some amount of stranded assets by midcentury. While stranded gas assets will not be an issue for some time, the CPUC could explore how the long-term costs of the gas transition may be treated and could study options such as securitization with repayment by taxpayers.

Finally, if gas utilities face extremely low utilization of their systems, the CPUC and stakeholders will need to rethink the viability of the gas utility business model. Gas utility infrastructure may still be needed to deliver alternative fuels to certain hard-to-electrify customers and end uses, but the gas system will be much smaller in size. The state may ultimately need to take ownership of some remaining gas assets at the end of the gas transition. For the foreseeable future, gas utilities will be needed to maintain safety and reliability across a large and widely used system. Until major progress is made in reducing the scale and utilization of the gas system, reassessing gas utility business models is not an immediate priority.

Recent CPUC Rulings

In November 2024, the CPUC issued two rulings seeking comments from parties on questions related to "Interim Actions" and "Gas Distribution System Mapping."[4, 5] These rulings reflect important progress toward scoping the relaunched Long-Term Gas Planning proceeding and they include questions and proposed scope related to some of the recommendations in this white paper.

The following section details our review of gas planning proceedings in other states, including progress on the proposed near-term actions as well as key risks related to gas utility long-term plans.

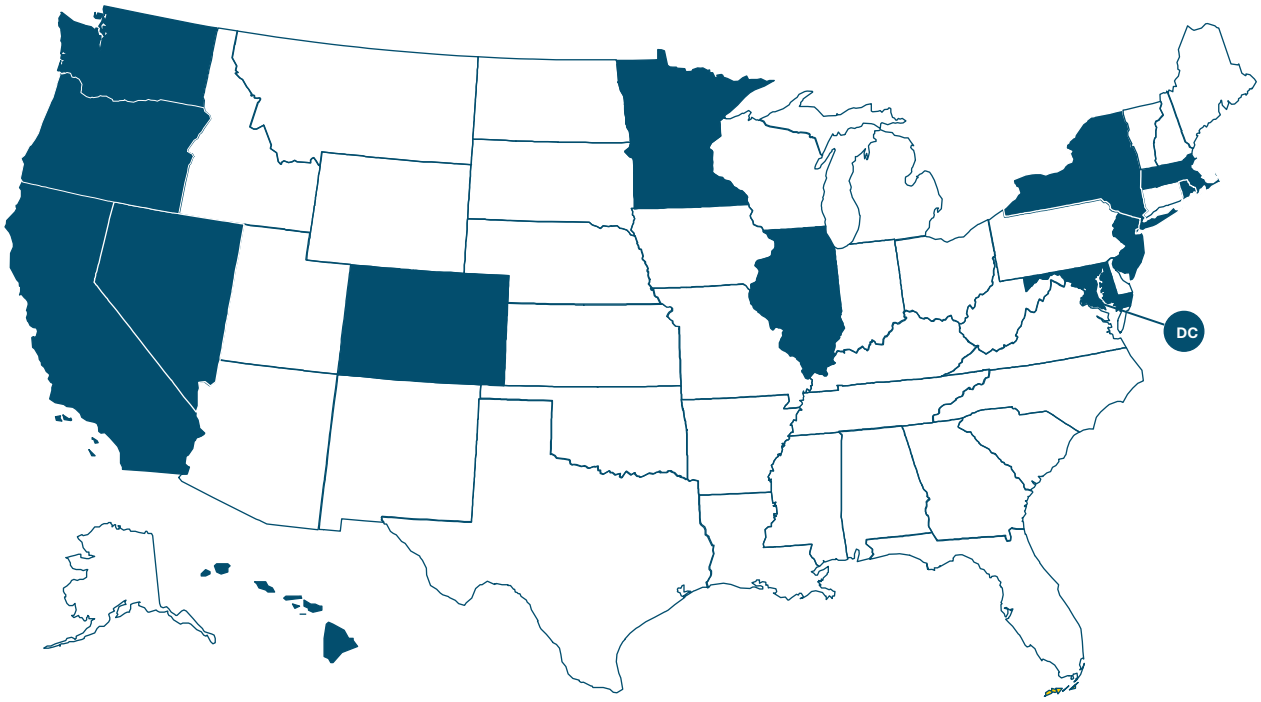
[4] CPUC R. 24-09-012, Administrative Law Judges' Ruling Seeking Comments Regarding Interim Actions. https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M545/K343/545343829.PDF

[5] CPUC R. 24-09-012, Assigned Commissioner's Ruling Scheduling Prehearing Conference, Noticing Preliminary Updates to Scope and Categorization, and Inviting Party Comments. https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M545/K343/545343586.PDF

Lessons Learned from Other States

Figure 3 illustrates the thirteen states and Washington D.C. that have open proceedings to plan for a gas transition. We reviewed these proceedings to inform our recommendations on actions for California's gas planning proceeding.

Figure 3: States with Gas Planning and Transition Proceedings

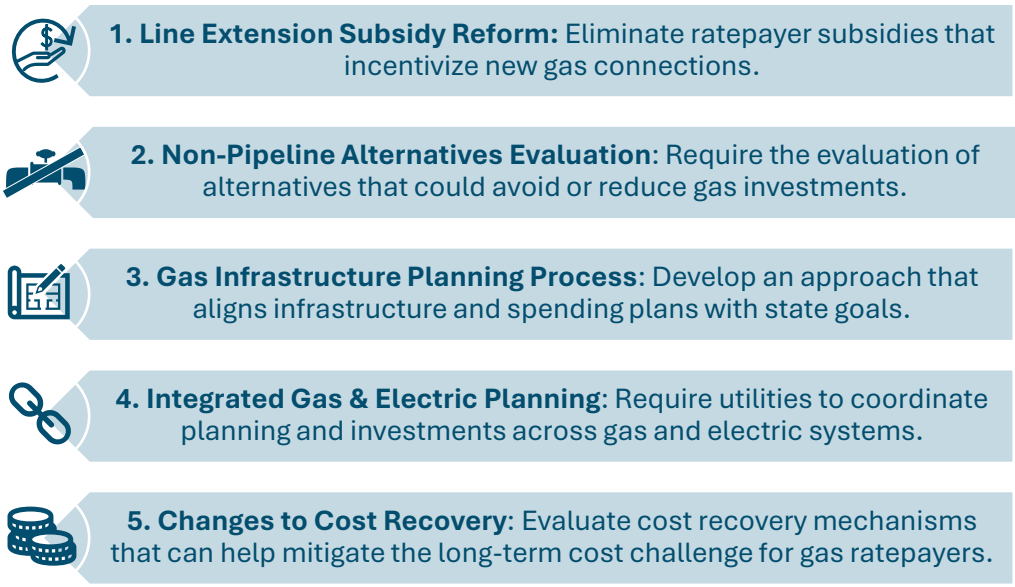


Although California was one of the first states to identify the need for a gas transition, several other states have since implemented a range of actions to manage gas system spending and to update cost recovery mechanisms for long-term costs of the transition. However, some state planning processes have seen misalignment in gas utility plans and drawn-out timelines for decision-making. In this section, we highlight key findings from these states, including progress as well as important pitfalls, to inform our recommendations for California's gas planning proceeding.

Successes from Gas Planning and Transition Proceedings

Figure 4 describes five key actions that have been advanced in gas transition planning proceedings. These actions have resulted in important changes to planning investments in the gas system and cost recovery for gas investments.

Figure 4. Key Gas Transition Actions



The following sections describe these actions in detail along with a state highlight for each one. The first action illustrates a major success that California has already achieved. The other four provide useful guidance for California's future planning efforts. Finally, we address potential risks from gas utility long-term plans.

Action #1: Line Extension Subsidy Reform

State Highlight: California

- The CPUC **ended gas line extension subsidies** for all new construction
- The CPUC also **ended electric line extension subsides** for new **mixed-fuel** construction

These changes will incentivize all-electric new construction and help reduce long-term costs for gas ratepayers.

Best Practice: *Using PUC authority to end incentives for new gas construction and reduce long-term costs to gas ratepayers.*

In an era of declining gas demand, limiting further gas ratepayer costs associated with system expansion may help to manage long-term cost impacts. Ending ratepayer-funded subsidies for line extensions would mean that, where new customers want to connect to the gas system, they would fully bear those costs without support from gas ratepayers.

California stands out among its peers for success in reforming line extension policies. The CPUC first eliminated ratepayer subsidies for gas line extensions for customers without special exemptions, making interconnecting customers fully responsible for the costs. The following year, the CPUC took a further step to incentivize all-electric new construction by also eliminating ratepayer subsidies for electric line extension for mixed-fuel buildings. In addition to disincentivizing new gas connections and reducing long-term costs for gas ratepayers, these changes will also support the CEC in developing an all-electric building code, which requires that code changes be cost-effective to be approved.

Action #2: Non-Pipeline Alternatives Evaluation

NPA evaluations generally consider "non-gas" alternatives to traditional projects such as thermal energy networks, geographically targeted building electrification, demand response programs, and conservation measures. Depending on the jurisdiction, NPAs may also include supply options that could help mitigate a capacity constraint, such as liquified natural gas, compressed natural gas, bottled gas (propane), and alternative gases. NPA measures can be implemented individually or as a portfolio.

California, Colorado, Massachusetts, New York, and Rhode Island all require NPA evaluation for at least some gas infrastructure investments, but these states greatly differ in which projects require NPA evaluation and how in-depth that evaluation needs to be. The most comprehensive NPA frameworks would require NPAs to be considered for all or most gas utility investments. These frameworks would include screening criteria to identify projects suitable for NPAs, benefit-cost analyses to evaluate NPA options, and cost recovery mechanisms and/or incentives that encourage successful implementation of NPAs.

Screening criteria can be designed to ensure that all investments can be screened for NPA suitability, not just the largest capital projects undertaken by utilities. These criteria will also need to recognize that some infrastructure projects will need to move ahead quickly. Criteria based on safety and reliability may rule out certain projects for NPA evaluation, while other criteria, such as cost and timing, may determine the types of NPA projects considered and the depth of evaluation undertaken.

Benefit-cost analyses (BCA) add a layer of detail to NPA evaluation, aiming to evaluate the costs and benefits to participants, to ratepayers, and to society. BCAs enable utilities and stakeholders to compare traditional gas infrastructure investments to an NPA or NPA portfolio. BCAs are complex and rely on many assumptions, including a modeled counterfactual case where the NPA is not implemented.

Successful NPA frameworks will also have a mix of "carrots" and "sticks' that incentivize utilities to evaluate and implement NPAs. "Carrots" may include the ability to capitalize some share of NPA costs or performance incentives for successful NPA implementation. "Sticks" may put cost recovery at risk for traditional investments if NPAs are not adequately evaluated and pursued.

Stakeholders will need an opportunity to review and comment on NPA evaluation frameworks and may also want to provide input on specific NPA evaluations. To provide meaningful feedback into an NPA evaluation, stakeholders will need access to some utility infrastructure data at a geospatial level. Access to system

State Highlight: Massachusetts

In Order 20-80-B, MA DPU required LDCs to consider NPAs to minimize stranded asset risk:

- Under a **prudent investment standard,** LDCs are required to consider NPAs for all projects
- LDCs are required to consider **costs and benefits across many categories**
- NPA framework must consider **affordability** and a just **workforce transition**

MA is conducting a **stakeholder process** to inform the **NPA selection and evaluation framework.**

Best Practice: *Tying utility cost recovery to NPA evaluation; requiring the development of an NPA evaluation framework for most distribution investments; stakeholder feedback on NPA framework.*

data, with appropriate safeguards, will support transparency and stakeholder engagement on NPA evaluation.

Massachusetts has required its gas utilities to evaluate NPAs for all capital projects. DPU Order 20-80-B ruled that, to receive full cost recovery for capital investments, gas utilities will "bear the burden of demonstrating that NPAs were adequately considered and found to be non-viable or cost prohibitive."[6] Massachusetts utilities are currently conducting a stakeholder process to inform NPA screening and to provide input into a future evaluation framework. As part of this framework, the utilities will be required to consider the "true cost and true benefits of additional investments in the gas system"[7] as well as impacts on affordability and a just workforce transition. Massachusetts provides a model for other states, both in its requirement of NPA consideration for all capital investments and in its stakeholder process to develop an NPA framework.

Implications of Obligation to Serve for NPAs

Looking ahead, the utility obligation to serve has been identified as a key barrier to successful implementation of NPAs. Some may interpret the obligation to serve as indicating that an NPA cannot avoid gas pipeline replacement if a single customer opts to retain gas service. While utilities and PUCs may consider different interpretations of the obligation to serve, they may be hesitant to act without clear direction from state legislatures.

California took a historic first step this year when it passed SB 1221. Under this law, in specific pilot projects located in priority zones, a gas utility may be relieved of the obligation to provide gas service where "adequate substitute energy service is reasonably available" and where two thirds of property owners consent to the NPA project.[8] Looking ahead, larger-scale NPA implementation will require further refinement and clarification of the obligation to serve.

[6] Massachusetts DPU 20-80-B, p. 2. https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/18297602
[7] Massachusetts DPU 20-80-C, p. 1. https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/18859260
[8] California Senate Bill 1221, Chapter 602, Statutes of 2024. https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202320240SB1221

Action #3: Gas Infrastructure Planning Process

State Highlight: Colorado

In Decision No. C22-0760, the CO PUC required gas utilities to file gas infrastructure plans (GIPs) separately from their rate cases.

In response to PSCo's first GIP filing, the PUC ruled that:

- Forecasting methodology and investment plans must be **transparent** and must **align with Colorado's state and local climate goals**
- PSCo must **evaluate NPAs** for new business, capacity expansion, and system safety and integrity projects

Best Practice: *Designing a gas infrastructure planning process that provides greater oversight over utility capital planning and requires justification for a reasonably large share of gas system investments.*

Gas Infrastructure Plans (GIPs) describe a planning process to better align utility capital investment with state and local climate goals. GIPs add additional oversight into gas investments beyond the review of a general rate case. GIPs also aim to improve transparency of utility plans by ensuring that forecasting methodologies and assumptions are aligned with statewide expectations for growth or decline in gas demand and gas customers. GIPs may include a stakeholder process that enables stakeholders to address planning methodology and assumptions and provide feedback on results. The strongest GIP rules may require utilities to provide justification for infrastructure projects and may require consideration of non-pipeline alternatives as part of the GIP.

In **Colorado**, the Colorado PUC has required gas utilities to file GIPs separately from their rate case and to align infrastructure investment and capital spending plans with state and local climate goals.[9] The CO GIPs are also a forum for aligning forecasts of customer counts, capacity, and throughput with state plans and stakeholder expectations, and for planning gas commodity purchasing. Colorado's GIP process is distinct from the state's Clean Heat Plan proceeding, in which utilities identify a portfolio of measures to reduce emissions. This split approach illustrates that an examination of opportunities to reduce gas infrastructure costs can occur in parallel to the development of utility GHG reduction strategies.

In Decision No. C24-0092, the CO PUC reviewed Public Service Company of Colorado's (PSCo) GIP and found that business-as-usual gas system investments are "no longer acceptable nor in the best interest of ratepayers."[10] This decision built on the CO PUC's previous GIP decision to now require PSCo to evaluate Non-Pipeline Alternatives (NPAs) for new business, capacity expansion, and system safety and integrity projects. It further requires PSCo to consider alternatives that include the electrification of gas-only customers and to prepare system maps of the locations of planned projects to support the evaluation of alternatives as well as stakeholder input and feedback.

[9] Colorado PUC Decision No. C22-0760. https://www.dora.state.co.us/pls/efi/EFI_Search_UI.Show_Decision?p_dec=29605.
[10] Colorado PUC Decision No. C24-0092. https://www.dora.state.co.us/pls/efi/EFI_Search_UI.Show_Decision?p_dec=30670.

Action #4: Integrated Gas & Electric System Planning

As gas and electricity are increasingly competing to serve the same end uses in buildings, optimal energy system planning will require a coordinated approach to infrastructure planning across gas and electric utilities. Integrated planning may include sharing of forecast methodologies and assumptions to help align investment plans with similar underlying expectations for electrification. In addition, integrated planning may include sharing locational data on utility infrastructure and planned investments to support more efficient planning. For example, developing NPAs may require detailed knowledge of both the gas and electric infrastructure in a given location, including where gas investments are planned in the near future. NPAs may be most cost-effective where gas infrastructure needs replacement and where there is adequate electric distribution capacity.

Integrated gas and electric planning will be important for both dual-fuel and single-fuel utilities. Dual-fuel utilities, although ostensibly "integrated" within the same corporate structure, may have largely siloed engineering and planning teams that rely on differing methodologies, models, and forecasts. Single-fuel utilities will face even greater coordination challenges for integrated planning. In addition, electric and gas utilities will face disparate incentives for electrification and NPA projects. Developing integrated planning processes will take time but will be needed to align both electric and gas utility planning and operations with state goals. In addition, integrated planning can also consider complex questions around funding and incentives for NPA projects and other electrification projects, which affect both gas and electric utilities.

State Highlight: Massachusetts

In Order 20-80, the MA DPU required gas utilities to propose a **coordinated planning process** with electric utilities, including a broad stakeholder process.

MA also created a new state entity, the Office of Energy Transformation (OET), to oversee electric-gas coordination:

- The OET will convene an Energy Transformation Task Force to evaluate the need for new electric infrastructure and the potential for gas infrastructure retirements

Best Practice: *Directing electric and gas utilities with overlapping territory to jointly plan their investments, accounting for electrification plans.*

The difficulty of joint gas and electric utility planning will, in part, depend on each state's map of utility territories and the level of overlap between service territories. Depending on the state, there may be a combination of dual-fuel utilities, separate electric and gas utilities with largely overlapping territories, and separate utilities with largely distinct territories.

Massachusetts has required its electric utilities to propose a coordinated planning process with the gas utilities, which includes a broad stakeholder process. In addition to this requirement, Massachusetts established the Office of Energy Transformation (OET) to oversee coordination between the electric and gas utilities. The OET will convene an Energy Transformation Task Force to evaluate the need for new electric infrastructure and potential gas infrastructure retirements.

Action #5: Changes to Cost Recovery

The prior actions have focused on changes to utility planning that may help slow growth in the gas revenue requirement. Changes to cost recovery will also be an important tool to manage how these costs are borne by gas ratepayers over time.

State Highlight: Washington

HB 1589 directed the WA Utilities and Transportation Commission to adopt depreciation schedules that **accelerate cost recovery** and reduce rate base:

- May adjust cost recovery for gas infrastructure in service prior to July 2024 to be fully depreciated by 2050
- Intends to address long-term gas customer affordability challenges

HB 1589 also approves the **merger of electric and gas rate bases** of large combination utilities.

Best Practice: *Advancing cost recovery mechanisms early in the gas transition while there is still a broad customer base.*

The design of gas rates will be an important question throughout the transition. Volumetric rate levels face competing considerations: higher volumetric rates would encourage electrification but would risk bill increases for customers who are unable to electrify. Fixed charges may help ensure that smaller users contribute fairly to the fixed costs of the gas system, but they would increase bills for low-usage customers and would fail to recover costs from customers who fully electrify. Fixed charges will also affect volumetric rate levels.

Looking ahead, forecasted declines in customers and throughput will challenge cost recovery for capital assets, as gas investments may have lifetimes of 60 years or longer. If California achieves its building electrification goals, the gas system will see low utilization within 20 years, and thus gas utilities will not have 60 years to recover the cost of investments without significant rate increases for remaining customers.

Accelerated depreciation is one mechanism that has been proposed to better align cost recovery with the timeline in which assets are expected to be utilized. Under accelerated depreciation, a larger share of costs would be recovered in the near term while there is a larger gas customer base and greater throughput on the system.

In the longer term, securitization is another option to recover the costs of gas system assets off the gas utility book. PUCs have historically applied securitization to large costs that may otherwise be a shock to ratepayers, such as to recover costs associated with the 2001 energy crisis in California. Securitization of gas assets could be a tool to address equity and affordability concerns by recovering costs differently, such as from state taxpayers.

Washington has begun to advance accelerated depreciation with the goal of addressing long-term gas customer affordability challenges. HB 1589, passed in March 2024, directed the Utilities and Transportation Commission (UTC) to adopt depreciation schedules that accelerate cost recovery.[11] The law allows the UTC to adjust cost recovery for gas infrastructure that entered into service prior

[11] Washington House Bill 1589. https://lawfilesext.leg.wa.gov/biennium/2023-24/Pdf/Bill Reports/House/1589 HBR ENVI 23.pdf

to July 2024 by accelerating depreciation so that it is fully depreciated by 2050. In addition, HB 1589 approves the merger of electric and gas rate bases of large combination utilities to incentivize a shift from gas infrastructure investments to electric infrastructure investments, aligned with Washington's overall electrification goals and helping to spread the costs of transition across a stable customer base. Note, however, that Washington State Ballot Measure 2066 passed in November 2024, prohibiting rate plans that require or incentivize a utility to terminate gas service and reversing portions of HB 1589 related to the evaluation of NPAs and electrification programs.

Potential Risks from Gas Utility Long-Term Decarbonization Plans

Our review has also identified potential risks associated with tasking gas utilities with the development of long-term decarbonization plans. In this section, we highlight some of these risks.

Many gas transition and planning proceedings have asked utilities to develop long-term plans for decarbonizing their operations. These plans can be useful for identifying differences among utilities and the customers they serve and for gathering stakeholder input on the direction of gas decarbonization in each state. However, there is a risk that utilities submit plans that are misaligned with state decarbonization plans. At best, this may be an unproductive use of time for stakeholders and the Commission. At worst, this may create uncertainty around utility planning and investments or provide tacit acceptance of utility plans that are not aligned with state goals. Either way, this may divert attention from important near-term actions that should not wait for utility plans to be finalized.

Misalignment of Utility Plans

In 2022, the Hawaii PUC required Hawaii Gas to develop an Integrated Resource Plan as a condition for a planned acquisition. In their Resource Plan, Hawaii Gas focused on planning its gas supply under forecasts of steadily increasing gas demand. Hawaii Gas did not model any scenarios that included electrification. In addition, although consideration of GHG emissions was a requirement for the IRP process, the preferred plan developed by Hawaii Gas relied on purchased offsets for 93% of the emissions reductions achieved.

Lessons Learned: Hawaii

- In 2022, the Hawaii PUC required Hawaii Gas to develop an Integrated Resource Plan as a condition for a planned acquisition by Argo Infrastructure Partners
- To achieve net zero, Hawaii Gas's preferred plan relies predominantly on purchased offsets to reduce emissions
- No scenarios modeled sales declines from electrification

Key Takeaway: *If utilities do not align their plans with existing state plans for decarbonization, stakeholders may ultimately view the exercise as unproductive.*

Stakeholders objected to these assumptions, arguing that Hawaii Gas's overall approach was at odds with state policy, which is focused on electrification in the building sector. In addition, stakeholders noted that, under Hawaii statute, purchased offsets would not be eligible for emissions reductions toward net zero goals. Hawaii Gas filed their Final IRP in April 2023, but the Hawaii PUC has not yet accepted the IRP and the proceeding has been largely dormant since then.

Lessons Learned: New York

- Since 2023, New York's gas utilities have been submitting long-term plans on a staggered basis
- These plans differ widely from one another and from the state's Climate Action Plan
- While there is a role for discussing differences among utilities and their service territories, this has taken much of the proceeding's attention over two years

Key Takeaway: *Without clear requirements for aligning with state goals or unified assumptions, gas utility plans may be challenging to compare with one another and may distract attention from other elements of gas transition planning.*

New York's long-term planning process provides a related though less dramatic example. In New York, gas utilities have submitted long-term decarbonization plans on a staggered basis over the past two years. These plans have been informative in terms of illustrating key differences among the state's gas utilities and their customers. However, because these plans are so different from one another and may also differ from the state's emphasis on electrification, it has been challenging to draw clear conclusions from the set of distinct plans. In addition, the utility plans have occupied much of the proceeding's attention for the last two years. The gas utility plans are in various stages of stakeholder review, Commission review, and partial or full Commission acceptance.

There are two key takeaways from Hawaii and New York's experience. First, utility decarbonization plans will be most useful when they are aligned with overall policy direction from the state and when they use assumptions that are aligned among utilities and, ideally, with state-level plans. Second, although utility long-term plans may provide valuable context and information, an early focus on these plans may distract from other proceeding objectives. Although there may be a role for utility decarbonization plans, these plans should not hold up time-sensitive proceeding objectives, which can move forward without waiting for utility plans to be developed, reviewed, and finalized.

Conclusion

Achieving California's net zero greenhouse gas emissions target will require a dramatic transformation of the state's gas system. California has established a clear plan for widespread building electrification, but the rising costs of maintaining the gas system in the interim and the declining customer base that will result from electrification will create a long-term cost challenge for gas utilities and ratepayers. A managed gas transition will be critical to reducing gas system spending and managing ratepayer costs.

Although California was among the first states to identify these crucial issues, several other states have since implemented a range of actions to support gas transition planning. California's new long-term gas planning proceeding (R. 24-09-012) creates an opportunity to tackle urgent issues that can mitigate long-term costs to gas ratepayers. While California has already eliminated gas line extension subsidies, we recommend that the CPUC focus on the other four gas transition actions described in this white paper: requiring NPAs for gas infrastructure projects, developing a gas infrastructure planning process, requiring joint planning with electric utilities, and developing alternative cost recovery mechanisms.

Focusing on these steps will set California on a path to reducing the long-term cost burden for gas ratepayers while continuing to make progress on building electrification. The development of gas utility long-term plans and the setting of sector-specific targets are not needed in the near term to make progress on defining and deciding critical issues related to gas system infrastructure planning and cost recovery. Managing the gas transition will be a long-term process, but acting now will give California the best chance to achieve a managed transition that meets the state's decarbonization goals while minimizing long-term cost impacts to ratepayers.