

California's Building Transition

Recommendations for Gas Transition Regulatory Proceedings
at the California Public Utilities Commission

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SUMMARY

Over the next few decades, gas throughput in California is expected to plummet as the state pursues 100 percent clean electricity,¹ a doubling of energy efficiency,² and economy wide carbon neutrality by 2045.³ This energy transformation will deliver climate action and healthier air quality for all Californians, but minimizing societal costs and inequitable outcomes through the transition will require careful planning. As the California Public Utilities Commission (CPUC) prepares to open proceedings to address these challenges, policy research and the progress of regulators in other jurisdictions provide a promising roadmap for an equitable gas transition.

Policy Challenges

According to research by Energy and Environmental Economics, Inc. (E3), transitioning California’s buildings from gas appliances to electric appliances powered by the state’s increasingly decarbonized electric grid is the lowest societal cost path to building decarbonization—up to \$20 billion less expensive per year by 2050 than a scenario with no building electrification.⁴

This transition away from gas has already begun. In light of California’s goal of net-zero carbon emissions by 2045, Assembly Bill (AB)

3232 and Senate Bill (SB) 1477 require zero-emission construction past 2030 and deploy \$50 million each year for the development of clean and affordable appliances, including electric appliances. At the same time, utilities such as the Sacramento Municipal Utility District (SMUD) have begun offering “Go Electric” incentives to help finance gas-to-electric appliance conversions.⁵ And though no state law currently mandates building electrification, more than 30 California cities have moved to limit the use of gas in new buildings since the summer of 2019.⁶

But while gas demand is declining in response to energy efficiency and electrification efforts, the cost of maintaining the gas system is increasing.⁷ Following the 2010 San Bruno pipeline explosion and the Aliso Canyon methane leak, Southern California Gas Company (SoCalGas) and Pacific Gas and Electric (PG&E) each sought or received increases in their revenue requirements to pay for required safety investments and upgrades.⁸ And to complicate matters further, gas-serving utilities are bound by an obligation to serve gas to any customer who wants to be connected to the system—even when the new gas infrastructure is likely to be retired before the end of its engineering life. These fixed costs will be charged to gas ratepayers even as the number of customers on the gas system decreases.

¹ [SB-100 California Renewables Portfolio Standard Program: emissions of greenhouse gases](#), 2018

² [SB-350 Clean Energy and Pollution Reduction Act of 2015](#), 2015

³ [Executive Order B-55-18 to Achieve Carbon Neutrality](#), 2018

⁴ [The Challenge of Retail Gas in California’s Low-Carbon Future](#), Energy and Environmental Economics, Inc., California Energy Commission, April 2020, p. 4

⁵ [Customer Incentives Program](#), Sacramento Municipal Utilities District, 2020

⁶ [California’s Cities Lead the Way to a Gas-Free Future](#), Matt Gough, Sierra Club, July 24, 2020

⁷ [The Challenge of Retail Gas in California’s Low-Carbon Future](#), Energy and Environmental Economics, Inc. for the California Energy Commission, April 2020, p. 5

⁸ [California’s Gas System in Transition](#), Gridworks, 2019, p. 2

As a result of decreasing gas demand and increasing gas system costs, gas rates and bills are increasing. This could lead customers who can afford to replace gas appliances with electric ones to do so—further driving up rates for those who remain on the system and incentivizing even more customers to go all-electric. Without intervention, this spiral could cause residential gas rates to increase as much as 480 percent by 2050⁹—potentially stranding those least able to transition off the gas system with staggering utility bills and, possibly, an unsafe and unreliable gas system.

Recommendations

Recognizing these challenges, the California Public Utilities Commission (CPUC) has decided to open proceedings in October 2021 to develop a long-term gas transition plan.¹⁰ At this point, the Building Decarbonization Coalition will have the opportunity to submit recommendations to the CPUC to inform a just and equitable transition to all-electric buildings. Based on policy research and lessons from other jurisdictions, the Coalition’s recommendations should advance four main goals.

First, the Coalition should recommend policies that will minimize further expenditures towards the gas system—expenditures that are contrary to California’s decarbonization goals and that will only exacerbate the cost challenge of the gas transition. This involves both limiting the expansion of the gas system and minimizing further repairs or replacements of gas infrastructure.

⁹ [The Challenge of Retail Gas in California’s Low-Carbon Future](#), Energy and Environmental Economics, Inc., California Energy Commission, April 2020, p. 49

RECOMMENDATIONS FOR AN EQUITABLE GAS TRANSITION

Minimize Gas System Expenditures

- Establish a threshold for determining which new gas investments are necessary to maintain a safe and reliable energy system
- Establish pilot programs for geographically targeted electrification, working with utilities to identify areas where pipes are depreciated and/or due for repairs or replacement
- Establish a “bright line” after which no new, unnecessary gas investments can be included in the rate base
- Work with legislators to address gas utilities’ obligation to serve, or encourage gas utilities to open abandonment proceedings to avoid new gas system expenditures
- End the gas line extension allowance
- Shift the upfront cost of a new gas connection to the entering customer
- Work with utilities to establish pilot programs that explore options for reducing gas system O&M costs

Equitably Finance Gas Assets

- Adopt recommendations for minimizing further gas system expenditures
- Work with utilities to collect key planning information about the gas system
- Develop accelerated depreciation schedules for gas assets that are likely to be stranded, including committed decommissioning for any new gas investments
- Implement bill protections for low-income customers

¹⁰ [Order Instituting Rulemaking to...Perform Long-Term Gas System Planning](#), California Public Utilities Commission, January 2020

- Consider working with the state legislature to securitize both the accelerated portions of gas assets and the assets' decommissioning costs
- Consider shifting from a peak-day gas cost allocation to a usage-based cost allocation
- Adopt a minimum bill or fixed charge for high-income gas customers who use gas infrequently or for "luxury" uses
- Determine how much additional funding is needed to mitigate gas rate increases, and begin working with the legislature to fill that gap

Second, the CPUC should establish a regulatory approach for financing gas assets and their decommissioning costs. This plan should be equitable, not burdening low-income ratepayers or future generations with an undue portion of the transition cost.

Third, the CPUC should take measures to ensure that all Californians can afford to switch from gas to electric appliances. To do this, CPUC should center low-income and disadvantaged communities in the planning process, build on existing electrification and energy efficiency programs, and explore additional funding resources necessary.

Finally, the CPUC's plan should support California's gas distribution workforce, empowering labor unions and gas-serving utilities with the resources to implement a just transition for gas workers.

As one of the first U.S. states to institute gas transition regulatory proceedings, California's gas transition strategy can serve as a model for the rest of the country and the world. This transition can and should be equitable, empowering not only disadvantaged

communities but also the gas workforce. To accomplish this, the CPUC can build on policy research and the steps taken in other jurisdictions to develop a successful and just roadmap to a decarbonized future.

Make Electrification Accessible to All Californians

- Center low-income and disadvantaged community leaders and organizations in the gas planning process
- Expand incentive programs and rebates for electrification and energy efficiency
- Secure additional funding as necessary
- Establish pilot programs for electrification in low-income and disadvantaged communities, drawing on the San Joaquin Valley model of community engagement
- Adopt on-bill financing to assist with the upfront capital costs of electrification
- Establish avenues for effectively communicating electrification opportunities to low-income and disadvantaged community members
- Work with the legislature as needed to build on the renter protections established AB 1482 and to require landlords to include utilities in rent

Implement a Just Transition for the Gas Workforce

- Work with unions and utilities to establish decommissioning dates for gas infrastructure, which will assist unions in their just transition planning
- Direct utilities to implement unions' just transition recommendations
- Begin securing funding now, exploring the Diablo Canyon model of collecting funds in customer rates or working with the legislature to finance the transition

SCOPE OF THE REGULATORY PROCEEDINGS

In January 2020, the California Public Utilities Commission (CPUC) announced that it would open a two-track rulemaking session about the future of gas use in the state. Track 1, which started in July 2020, is divided into two parts: Track 1A, focused on updating gas system reliability standards, and Track 1B, concerned with facilitating coordination between gas utilities and gas-fired electric generators. Track 2, which will start in Mid-October 2021 after Track 1 decisions are finalized, will develop and implement a long-term planning strategy for California's transition away from gas-fueled technologies.¹¹ To develop this strategy, Track 2 will focus on the following questions:

1. Between the "Time Horizons" 2019-2030, 2030-2040, and beyond 2045, how can the CPUC ensure safe and reliable gas service at just and reasonable rates?
2. How can the CPUC mitigate stranded costs and additional operations and maintenance expenses?
3. Should the CPUC establish a threshold to determine when gas infrastructure should be replaced for reliability purposes?
4. Should the CPUC adopt changes to gas rate design and cost allocation, and would those changes raise affordability concerns?
5. How should the CPUC balance the need to maintain gas-fired generation in the short term for reliability purposes with the need for economic retirements?

6. How will the utility workforce be impacted by a transition away from gas, and how should the CPUC address this in the planning process?

To answer these questions, CPUC Energy Division staff will develop gas demand scenarios based on state and local decarbonization policies and then work with utilities to examine how these scenarios could impact gas throughput and operations. Using this analysis, the CPUC will determine and implement the regulatory changes needed to fairly allocate gas transmission costs and mitigate stranded assets.

The CPUC's decision in this proceeding has the power to shape California's energy transition and provide an example of how a successful and equitable transition can be managed. In developing this plan, the CPUC can in turn look at the policies explored in research and deployed in other jurisdictions as a promising roadmap for California's gas transition.

POLICY RESEARCH

California's gas transition planning can be broken into three main components: 1) equitably financing existing gas assets, 2) halting expansion of the gas system, and 3) transitioning off the existing system while maintaining safe, reliable, and affordable energy access and providing a just transition for gas workers. This section draws on policy research to synthesize the many viable steps that California regulators could take to address these challenges.

¹¹ [Order Instituting Rulemaking to...Perform Long-Term Gas System Planning](#), CPUC, January 2020

POLICY RESEARCH | Financing Existing Gas Assets

California’s climate goals demand that the state transition off gas, and do so quickly. But as Californians transition off the gas system via electrification and energy efficiency, gas throughput will decline, eventually leaving those few left on the system to finance the remaining cost of the gas distribution system—a system currently valued between \$15 and \$20 billion dollars and continuing to grow.¹² Without intervention, those least able to transition to electric appliances, such as renters and low-income homeowners, could face gas prices as high as \$19 per therm (\$2018) by 2050.¹³

A sharp decline in gas throughput could also preclude gas utilities from recovering the cost of their existing gas assets. When a utility makes a prudent investment, it can be included in the rate base and charged to the utility’s customers. The recovery of the investment is then typically spread over the entire engineering life of the asset and across many customers, ensuring greater affordability for individual ratepayers. In the case of gas assets, the cost could be spread across an engineering life of up to 80 years.¹⁴ Yet California has committed to achieving economy-wide carbon neutrality in 30 years. Therefore, some existing gas assets could cease to be “used and useful” before the end of their engineering life and before their cost is recovered from ratepayers. At this point, the gas asset would be considered stranded.

In their gas proceedings, the CPUC must decide how existing assets should be financed to mitigate stranding assets, and how to do so equitably—without burdening future generations or low- and middle-income ratepayers with an undue portion of the costs. Policy research from E3, the Environmental Defense Fund (EDF), and more offer potential solutions to this pressing challenge.

Determining What Costs to Recover

First and foremost, California regulators must determine how much money the gas-serving utilities should recover for their existing, undepreciated gas assets. This could include a determination of the value and expected decommissioning costs of the assets, and whether a change in cost recovery is appropriate.

VALUATION OF EXISTING ASSETS

The unrecovered investment value of the gas system as a whole and its individual assets is a critical component of the gas planning process, yet regulators in California do not currently have access to this data or an analysis of it. According to EDF, only gas utilities have a working understanding of these unrecovered costs—yet even they have not incorporated data about potentially stranded gas assets with strategic electrification efforts.¹⁵

Knowledge of which gas assets are likely to be stranded and which assets are fully depreciated

¹² [California’s Gas System in Transition](#), Gridworks, 2019, p. 4

¹³ [California’s Gas System in Transition](#), Gridworks, 2019, p. 2

¹⁴ [The Natural Gas Paradox: Shutting Down a System Designed to Operate Forever](#), Heather Payne, Maryland Law Review, June 2020, p. 7

¹⁵ [Managing the Transition Proactive Solutions for Stranded Gas Asset Risk in California](#), Environmental Defense Fund, 2019, p. 19

will not only assist with financial planning, but will also enable the CPUC to develop an informed strategy for shutting down the gas system. Therefore, EDF recommends that the CPUC work with the gas-serving utilities to determine the unrecovered value of the gas system and then share and analyze this data to inform their gas transition plan.

DETERMINING DECOMMISSIONING COSTS

Another key consideration that might impact the amount of money collected from ratepayers for existing gas assets are the assets' projected decommissioning costs.¹⁶ These costs might be limited to depressurizing, sealing, and capping pipes that remain in the ground, or they might account for the more expensive process of removing the asset entirely.

In order to plan a full recovery of gas infrastructure costs, California regulators might need to clarify these costs for utilities: can pipelines be abandoned in place, or should they be fully removed? Once end-of-life costs are determined, regulators can decide if they should be recovered alongside the unrecovered value of the gas system or if they should be treated separately, such as by appearing as a line-item on customers' bills.¹⁷

CHOOSING A COST RECOVERY OPTION

The CPUC might also confront a thorny question in their gas transition proceedings: how much money should shareholders be able to recover

for existing gas assets that are considered likely to be stranded?

On one end of the spectrum, regulators could provide utilities with full recovery including profit for all existing gas assets, even those which will be retired before the end of their engineering life. This option might provide investor-owned utilities and their shareholders with the most regulatory certainty, incentivizing them to continue maintaining a safe and reliable gas system. But it also essentially shifts the entire risk of the failed investment to ratepayers, who might end up paying for assets that are no longer in service or providing a benefit to them.¹⁸

Alternatively, regulators could allow shareholders to recover the capital costs of stranded assets without allowing them to realize the full rate of return on those assets. This would require designating stranded gas assets as no longer "used and useful" and removing them from the rate base. In California, regulators have a great deal of flexibility in determining whether an investment is "used and useful"¹⁹—but, while technically feasible, it is not typical for regulators to remove utility assets that have already been

¹⁶ [Gas Regulation for a Decarbonized New York](#), Synapse Energy Economics Inc., Natural Resources Defense Council, June 2020

¹⁷ [Managing the Transition Proactive Solutions for Stranded Gas Asset Risk in California](#), Environmental Defense Fund, 2019

¹⁸ [The Natural Gas Paradox: Shutting Down a System Designed to Operate Forever](#), Heather Payne, Maryland Law Review, June 2020

¹⁹ [Managing the Transition Proactive Solutions for Stranded Gas Asset Risk in California](#), Environmental Defense Fund, 2019

used and useful from the rate base and treat them differently.²⁰

There is precedent for this regulatory action, however: in 2013, the San Onofre Nuclear Generating Station (SONGS) was shut down before the end of its expected operating life, and regulators moved the undepreciated value of the investment from the rate base to a separate account, where shareholders realized a 10 percent lower return on equity for the plant.²¹ Additionally, securitization, a widely recommended legislative tool for mitigating stranded assets, precludes utilities from earning a rate of return on an asset.

RECOVERY OPTIONS FOR EXISTING ASSETS

- Capital Recovery including Profit. Provide full capital cost recovery by keeping the gas asset in the rate base. Allow shareholders to receive the standard rate of return on the asset.
- Capital Recovery with Changes to Return on Equity. Remove the gas asset from the rate base, allowing shareholders to recover the capital cost of the asset but a diminished rate of return.
- Disallowing Recovery. Remove the underutilized gas asset from the rate base and disallow shareholders from recovering even the capital cost of the investment.

Finally, on the other end of the spectrum, California regulators could disallow shareholders from recovering even the capital

cost of stranded assets from ratepayers. This would typically only occur when a utility has made an imprudent investment, and would also require removal from the rate base. While uncommon, regulators have pursued this option for cancelled nuclear plants.²²

On the one hand, this option might seem the fairest to ratepayers. Utilities have known about climate change for decades, and California policy has indicated that the state would pursue economy-wide decarbonization since at least 2018. Should gas ratepayers pay for utilities' failed investments?

In the context of existing assets, however, disallowing recovery is not likely. EDF writes, "For the purposes of building electrification, the state has made a policy choice exogenous to the utility's actions... therefore, total disallowance of all stranded assets is highly unlikely to be a viable strategy."²³ Disallowing recovery for existing assets could also dissuade utilities from making continued safety investments in gas infrastructure. Ultimately, the CPUC is most likely to pursue some combination of the first two recovery options for existing assets.

Financial Approaches

Once regulators determine how much money to recover from ratepayers for existing gas assets (if any), they must develop an equitable plan for cost recovery. This plan might combine several financial approaches to ensure that the

²⁰ [The Natural Gas Paradox: Shutting Down a System Designed to Operate Forever](#), Heather Payne, Maryland Law Review, June 2020

²¹ [The Natural Gas Paradox: Shutting Down a System Designed to Operate Forever](#), Heather Payne, Maryland Law Review, June 2020; [Managing the Transition Proactive Solutions for Stranded Gas Asset Risk in California](#), Environmental Defense Fund, 2019

²² [The Natural Gas Paradox: Shutting Down a System Designed to Operate Forever](#), Heather Payne, Maryland Law Review, June 2020

²³ [Managing the Transition Proactive Solutions for Stranded Gas Asset Risk in California](#), Environmental Defense Fund, 2019, p. 19

transition is affordable for low- and middle-income Californians both in the near term and in 2050.

ACCELERATED DEPRECIATION

One widely recommended financial approach, which might be employed alongside several other solutions, is accelerated depreciation. Accelerated depreciation mitigates stranded costs by adjusting a gas asset's cost recovery schedule to match its actual "useful life" determined by climate policy.

Investor-owned utilities typically recover the costs of a regulator-approved investment over the course of the infrastructure's engineering life. The investment is typically depreciated linearly, spreading the cost of an expensive asset over many customers and many years. Due to declining gas throughput, however, some existing gas assets might become obsolete before the end of their depreciation schedules.

To address this, 'accelerated depreciation' shortens the depreciation schedule to align with an asset's actual, useful life. This cost recovery method is being considered by some New York utilities and has been used recently on regulated coal assets.²⁴

Should regulators choose to pursue accelerated depreciation, they would need to determine not only the amount to be recovered and the remaining lifetime of the asset, but also the shape of the depreciation curve. For gas assets, regulators might want to adopt a faster-than-

linear depreciation schedule. This would front-load cost recovery of the asset to coincide with a time when more customers are connected to the gas system.²⁵

Accelerated depreciation, especially with a faster-than-linear depreciation schedule, would increase gas rates in the near term, but would decrease the burden on future gas users. E3 estimates that, if regulators combine reduced gas system expenditures with accelerated depreciation, the projected 2050 residential gas rate of \$19 per therm (\$2018) would be reduced to \$11 per therm.²⁶ This would contribute towards intergenerational equity, but accelerated depreciation also raises affordability concerns in the near term. To address this, it should be paired with financial measures that mitigate short-term costs and/or with bill-protections for low-income customers.²⁷

SECURITIZATION

One financial approach that could mitigate the near-term rate impact of accelerated depreciation is securitization. This would require the CPUC to work with the California legislature to 'securitize' the accelerated portion of each gas asset.

With securitization, an asset is removed from the rate base and converted into ratepayer-backed bonds issued by the state. The utility no longer earns a rate of return on the securitized asset, but they receive immediate capital cost recovery. For ratepayers, securitization also reduces the cost collected for the asset over its

²⁴ [The Natural Gas Paradox: Shutting Down a System Designed to Operate Forever.](#) Heather Payne, Maryland Law Review, June 2020

²⁵ [Gas Regulation for a Decarbonized New York](#), Synapse Energy Economics Inc., Natural Resources Defense Council, June 2020

²⁶ [California's Gas System in Transition](#), Gridworks, 2019

²⁷ [California's Gas System in Transition](#), Gridworks, 2019

remaining life. This is because instead of paying the asset cost plus a rate of return to the utility, ratepayers pay the asset cost plus an interest rate to the bondholders. This interest rate is low because state-issued bonds are a low-risk investment.

Recently, securitization has been used to finance stranded coal assets in New Mexico, Wisconsin, and other jurisdictions. The California Legislature also authorized securitization to recover utility costs during the transition from deregulation in 1997.²⁸ But while the state has done it before, the CPUC itself could not authorize billions of dollars in bonds on behalf of the State of California. Therefore, while the CPUC could work with the Legislature to introduce securitization legislation, fully implementing this measure falls out of the scope of CPUC proceedings.

CHANGES TO GAS COST ALLOCATION

California regulators could also consider shifting gas costs from residential and small business customer classes to larger commercial customer classes. Gridworks suggests that the CPUC do this by switching from the current peak-day cost allocation method to a usage-based cost allocation.²⁹

Smaller customer classes currently pay a relatively larger share of gas costs because, unlike larger customer classes, their gas service is never curtailed when their usage peaks. This is because the system was designed around small customers' peak-day usage. As gas

demand declines, however, it is unlikely that *any* customer class will experience gas curtailment—and in fact, it is already rare for any customer class to have their service curtailed. Therefore, a usage-based cost allocation method might be more fair, reducing bills for smaller customers while increasing bills for larger, commercial customers.

E3 finds that, combined with accelerated depreciation and reduced gas system expenditures, switching from a peak-day cost allocation to a usage-based allocation could reduce the 2050 residential gas rate to \$4.49 (\$2018) per therm.³⁰ In deciding whether to take this approach, regulators will need to weigh the benefits for residential customers with the competitiveness concerns surrounding higher energy rates for California companies.³¹

SHIFT GAS COST TO ELECTRIC RATEPAYERS

Another approach to mitigate the rate impact of the shrinking gas customer base is to shift some gas costs to electric ratepayers.³² This shift in costs could take the form of an exit fee, charged to ratepayers who transition off of gas infrastructure, or a competitive transition charge, present on the bills of all electricity customers.

An exit fee could provide equity benefits by collecting some gas costs from the people most financially able to transition away from gas appliances. However, such a fee could also detract from California's climate goals by

²⁸ [Managing the Transition Proactive Solutions for Stranded Gas Asset Risk in California](#), Environmental Defense Fund, 2019, p. 28

²⁹ [California's Gas System in Transition](#), Gridworks, 2019

³⁰ [California's Gas System in Transition](#), Gridworks, 2019

³¹ [The Challenge of Retail Gas in California's Low-Carbon Future](#), Energy and Environmental Economics, Inc., California Energy Commission, April 2020

³² [The Challenge of Retail Gas in California's Low-Carbon Future](#), Energy and Environmental Economics, Inc., California Energy Commission, April 2020

discouraging beneficial electrification. An exit fee might also have the drawback of being gameable, incentivizing customers to retain a single gas appliance to avoid paying.³³

A competitive transition charge could also deliver equity benefits by reducing gas costs for low-income customers—but it would also increase their electricity costs. Like an exit fee, it could also discourage electrification by raising electric rates. The CPUC has applied a competitive transition cost to customer bills before, to help pay for stranded assets in the wake of the California electricity crisis.³⁴

MINIMUM BILL OR FIXED CHARGE FOR SMALL GAS USERS

Similarly, the CPUC could shift costs away from low-income ratepayers by adopting minimum bills or fixed charges for higher-income customers who use the gas distribution system infrequently. This could include customers with vacation homes that are vacant for a significant portion of the year or customers that only use gas for “lifestyle” uses, such as cooking, pool and spa heating, or fireplace inserts.³⁵

Adopting this kind of minimum bill or fixed charge could mitigate gas rate increases for customers that use gas for space and water heating, who might be less able to afford electric appliances. By 2050, E3 finds that a \$15 per month fixed charge for small gas users could reduce the gas rate by \$0.70/therm (2018 \$).³⁶ Additionally, if the CPUC adopts a gas exit

fee, this charge for small gas use could discourage customers from ‘gaming the system’ by retaining only one gas appliance to avoid paying the fee.³⁷

INCREASE THE CARE RATE DISCOUNTS

To ensure affordability for low-income gas customers, the CPUC could also consider increasing the gas CARE rate discount—which is currently 20 percent for gas but 30-35 percent for electric service.³⁸

Increasing the gas CARE rate discount may become necessary if gas rates become unreasonably high, but it will also increase rates for middle- and high-income gas customers. Gridworks points out that this could have the unintended effect of driving non-CARE rate customers to electrify sooner while discouraging CARE recipients from transitioning to electric appliances, and could result in a net increase in gas rates for low-income customers. As an alternative, Gridworks suggests increasing the electric CARE rate to assist customers in the transition to electric appliances.

SECURE EXTERNAL FUNDING

E3 estimates that,

“Even with a 50% reduction in gas distribution reinvestment, changes to asset depreciation schedules, and changes to the cost allocation methodology, residential gas rates will still be

³³ [Gas Regulation for a Decarbonized New York](#), Synapse Energy Economics Inc., Natural Resources Defense Council, June 2020

³⁴ [Managing the Transition Proactive Solutions for Stranded Gas Asset Risk in California](#), Environmental Defense Fund, 2019

³⁵ [California’s Gas System in Transition](#), Gridworks, 2019

³⁶ [California’s Gas System in Transition](#), Gridworks, 2019

³⁷ [Gas Regulation for a Decarbonized New York](#), Synapse Energy Economics Inc., Natural Resources Defense Council, June 2020

³⁸ [California Alternate Rates for Energy \(CARE\)](#), California Public Utilities Commission

unsustainable in 2050 if extensive building electrification occurs on a large scale.”³⁹

To mitigate high gas costs for PG&E alone, they estimate, California would need \$16 billion between 2030 and 2050 in addition to what is collected from gas customers.⁴⁰ This considerable cost challenge could be met in part by cap-and-trade revenue or by the state general fund; ultimately, though, the CPUC will likely need to include a strategy for securing additional funds in their gas transition plan.⁴¹

PAYING FOR DECOMMISSIONING

Finally, end-of-life costs for gas assets could be financed in a variety of ways.

Recommendations include:

- Create a non-bypassable line item on customers’ bill to cover decommissioning costs, similar to the Nuclear Decommissioning Charge⁴²
- Add gas decommissioning costs ‘behind the scenes’ on customers’ bills by including them with gas distribution costs⁴³
- Establish a trust fund funded by rates to pay for decommissioning
- Include the decommissioning costs in the securitized amount if the state securitizes gas asset costs⁴⁴

³⁹ [California’s Gas System in Transition](#), Gridworks, 2019

⁴⁰ [California’s Gas System in Transition](#), Gridworks, 2019

⁴¹ [The Challenge of Retail Gas in California’s Low-Carbon Future](#), Energy and Environmental Economics, Inc., California Energy Commission, April 2020

⁴² [Managing the Transition Proactive Solutions for Stranded Gas Asset Risk in California](#), Environmental Defense Fund, 2019, p. 35

POLICY RESEARCH | Halting Expansion of the Gas System

Further investments on the gas system —likely to become sunk costs with little benefit to ratepayers—will only exacerbate the financial challenge of the gas transition. At the same time, the CPUC must ensure that the gas-serving utilities continue to make any gas investments required to maintain safe and reliable gas service as long as customers remain on the system. Whether through disallowing recovery on investments made past a certain date, eliminating gas extension allowances, or addressing utilities’ obligation to serve, policy research offers guidance to regulators on how to safely and equitably halt expansion of the gas system.

Limit New Customer Connections

More than 30 California cities have stepped up as leaders in the transition away from gas, limiting or banning the use of gas in new buildings. However, California has yet to take statewide action to bar new gas connections. The CPUC will have a chance to address this in their gas proceedings.

END GAS LINE EXTENSION ALLOWANCES

As a first step, the CPUC could eliminate their gas line extension allowance⁴⁵—a move that could save more than \$150 million dollars in

⁴³ [Managing the Transition Proactive Solutions for Stranded Gas Asset Risk in California](#), Environmental Defense Fund, 2019, p. 35

⁴⁴ Gridworks, [California’s Gas System in Transition](#), 2019

⁴⁵ [Gas Regulation for a Decarbonized New York](#), Synapse Energy Economics Inc., Natural Resources Defense Council, June 2020

new utility investments each year.⁴⁶ This measure would discourage new gas connections by shifting more of the cost onto the incoming customer. Additionally, the CPUC could increase the current electric line extension allowance to encourage electrification and make it more accessible for low- and middle-income households.

SHIFT LINE COSTS TO NEW CUSTOMERS

Another, more extreme step regulators could take is to require customers who want a new gas connection to pay the entire line cost up front, and then to credit the customer's bill over time as the line cost is collected in gas rates. This would ensure that the cost of the new connection is not stranded when the customer leaves the system—shifting the risk from customers as a whole to the new customer.⁴⁷

Limit Utility Gas Investments

In addition to discouraging new customers from connecting to the gas system, the CPUC should establish policies that clarify to utilities the risk of new gas expenditures.

THRESHOLD FOR NEW GAS INVESTMENTS

One such measure could be the establishment of a higher threshold for approving new gas investments. This threshold might require an investment to meet certain characteristics or

constraints in order to be considered 'prudent' and eligible for inclusion in the rate base. In New York State, for example, Synapse Energy Economics Inc. suggests that regulators require gas utilities to "demonstrate that they have considered non-pipeline alternatives before proposing conventional gas assets" and that they demonstrate how any gas proposal complies with New York's climate policies.⁴⁸

"BRIGHT LINE" FOR DEPARTURE FROM GAS

Once they adopt a threshold for determining whether a gas investment is necessary, the CPUC could also establish a "bright line" after which utilities cannot recover the cost of a new gas asset that is not required for safety and reliability purposes. (Although, EDF points that the legislature may have already established a bright line when they passed SB 1477).⁴⁹

COMMITTED DECOMMISSIONING

To further align any new gas investments with California's climate goals, the CPUC could commit new gas projects to specified decommissioning dates when they are approved and accelerate their depreciation schedules to match.⁵⁰ This would ensure that the costs of new gas investments are not stranded or charged to ratepayers beyond the time they are actually delivering benefits to customers. Additionally, this would reassure gas utilities that they can recover the costs of any

⁴⁶ [California's Gas System in Transition](#), Gridworks, 2019

⁴⁷ [Gas Regulation for a Decarbonized New York](#), Synapse Energy Economics Inc., Natural Resources Defense Council, June 2020

⁴⁸ [Gas Regulation for a Decarbonized New York](#), Synapse Energy Economics Inc., Natural Resources Defense Council, June 2020

⁴⁹ [Managing the Transition Proactive Solutions for Stranded Gas Asset Risk in California](#), Environmental Defense Fund, 2019

⁵⁰ [California's Gas System in Transition](#), Gridworks, 2019; [Gas Regulation for a Decarbonized New York](#), Synapse Energy Economics Inc., Natural Resources Defense Council, June 2020; ["The Natural Gas Paradox: Shutting Down a System Designed to Operate Forever,"](#) Heather Payne, Maryland Law Review, June 2020

necessary, safety- and reliability-related gas investments.

CHANGES TO COST RECOVERY

Finally, the CPUC could establish different cost recovery approaches to assure gas utilities that they will recover the costs of safety and reliability investments while discouraging them from making new, unnecessary gas investments.

For gas investments that the utility would consider prudent, such as those needed for safety and reliability reasons, the CPUC could allow full recovery including profit by leaving them in the rate base. Alternatively, the CPUC could allow utilities to recover the capital costs of new projects with a lower rate of return by removing them from the rate base and putting them in a separate account. Either of these options could be adopted in addition to committed decommissioning of new gas assets.

RECOVERY OPTIONS FOR NEW ASSETS

Capital recovery Including Profit. Allow utilities full capital recovery and rate of return on prudent gas investments.

Changes to Return on Equity. Prospectively lowering the rate of return on gas assets enough to discourage new investments.

Capital Recovery not Including Profit. Remove the gas asset from the rate base, disallowing the utility from earning a rate of return but allowing them full capital recovery.

Disallowing Recovery. Find new gas investments that fail to meet a certain threshold imprudent, and disallow profit or recovery of the asset's capital cost.

To discourage unnecessary gas investments, California regulators could lower the authorized return of equity for future gas investments to make them less attractive—however, this method could discourage utilities from making the safety investments that might be necessary.⁵¹

Alternatively, the CPUC could find new gas investments that do not meet a certain threshold imprudent, and disallow recovery for these assets entirely after a certain date. This option could also justify utilities' opening abandonment proceedings to avoid further repairs or replacements of older areas of the gas system, relieving them of their obligation to serve customers in those places.

POLICY RESEARCH | Transitioning from Existing Gas Infrastructure

Every year, gas utilities in California spend almost \$3.5 billion in operations and maintenance (O&M) costs to ensure safe and reliable gas service.⁵² Reducing these costs would mitigate the gas rate impacts of building electrification and, in the case of early gas retirements, could reduce the greenhouse gas emissions impact of California's buildings.

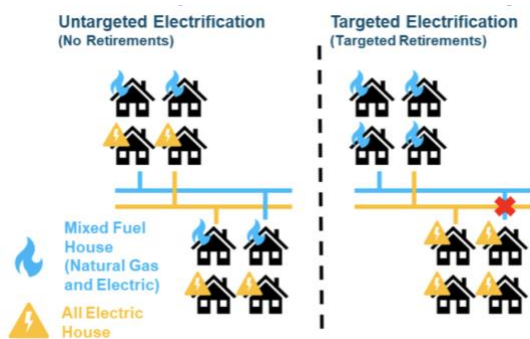
⁵¹ [Managing the Transition Proactive Solutions for Stranded Gas Asset Risk in California](#), Environmental Defense Fund, 2019

⁵² [The Challenge of Retail Gas in California's Low-Carbon Future](#), Energy and Environmental Economics, Inc., California Energy Commission, April 2020

A successful transition off of existing gas infrastructure should not only reduce these O&M costs, but also mitigate stranded assets and be equitable: empowering low-income and disadvantaged communities and providing a just transition for California’s more than 10,000 gas distribution workers. Such a plan might include targeting gas retirements, modifying utilities’ obligation to serve, and adopting measures to make electrification accessible to all California communities.

Geographically Targeted Electrification

New investments into the gas system will likely be sunk costs, retired before the end of their useful lives. Therefore, as portions of the gas system come to require repairs or upgrades, the CPUC might find it more cost-effective to shut down that region entirely than to allow utilities to continue investing in the gas system. This plan for strategically retiring portions of the gas system is referred to as geographically targeted electrification.



E3: Targeted and untargeted electrification⁵³

With geographically targeted electrification, an entire neighborhood might be transitioned off the gas system at the same time, saving costs by reducing the number of gas distribution pipelines that must be maintained throughout the transition. This is an especially favorable option where gas lines are aging, leaking, or otherwise in need of replacement.⁵⁴ It is important to note, however, that if an asset is decommissioned before the end of its depreciation schedule, then the undepreciated cost of the asset—and the cost of decommissioning—will be transferred to remaining gas customers who derive no benefit from the asset. To mitigate this, the CPUC could work with the gas utilities to identify gas assets that are due for repairs or replacements and are also fully depreciated, and target electrification in those regions.

TARGETING RETIREMENT OF ALDYL-A PIPING

Aldyl-A piping has been linked to fires and explosions in several states, including in PG&E territory in 2011. It is prone to cracking, and pre-1973 Aldyl-A piping has been the subject of federal safety advisories since 1988.⁵⁵ As of 2019, PG&E had replaced 410 miles of Aldyl-A and other plastic piping, with plans to replace more⁵⁶—continued investments that will only exacerbate the cost challenges of California’s gas transition.

Neighborhoods with Aldyl-A and other brittle plastic piping could be prime opportunities for geographically targeted gas retirements.

⁵³ [The Challenge of Retail Gas in California’s Low-Carbon Future](#), Energy and Environmental Economics, Inc., California Energy Commission, April 2020, p. 7

⁵⁴ [Gas Regulation for a Decarbonized New York](#), Synapse Energy Economics Inc., Natural Resources Defense Council, June 2020

⁵⁵ [PG&E Pledges Action on Aldyl-A](#), International Brotherhood of Electrical Workers Local 1245, October 2011

⁵⁶ [2019 GAS SAFETY PLAN](#), Pacific Gas & Electric, March 2019, p. 39

Gridworks recommends that the CPUC design pilot programs to target electrification in these areas, using the avoided cost of replacing the plastic piping to fund electrification efforts.⁵⁷ In the absence of obligation to serve reform, this would likely require the buy-in of all affected customers. Nevertheless, these efforts could save ratepayers money and help develop a model for California’s transition off of gas infrastructure.

However, these electrification efforts could be precluded by California law: gas-serving utilities currently have an ‘obligation to serve’ any customer gas service at the authorized rates. Therefore, neighborhood-wide electrification would require agreement from every affected customer to shift away from gas service. While it may be possible to garner this neighborhood-wide support for electrification efforts, the CPUC may need to work with state legislators to address utilities’ obligation to serve.

ADDRESSING OBLIGATION TO SERVE

Utilities could technically pursue electrification efforts without addressing gas utilities’ obligation to serve—but they would very likely be challenged in court. Gridworks, therefore, recommends that state legislature,

“preemptively clarify that a gas utility’s “obligation to serve” could be met with alternative fuels when doing so would avoid significant future investments in the gas system, reducing costs for all gas customers.”⁵⁸

An update of this kind would make sense, bringing obligation to serve requirements into

⁵⁷ [California’s Gas System in Transition](#), Gridworks, 2019

⁵⁸ [California’s Gas System in Transition](#), Gridworks, 2019, p. 17

alignment with California’s climate legislation. In the context of gas transition proceedings, the CPUC could work with state legislators to establish this change.

ABANDONMENT PROCEEDINGS

In lieu of legislative action, however, the CPUC could address utilities’ obligation to serve through one of its own resources: abandonment proceedings. In abandonment cases, a utility seeks to be released from their duty to provide a service to certain customers (for example, because the cost of connecting them to the gas system is unreasonable), and regulators require the utility to provide customers with the funds to transition to an alternative service (for example, electric service).⁵⁹

Of course, abandonment proceedings are typically brought about by the utility rather than by regulators—but regulatory policies can encourage abandonment proceedings by making new gas investments less attractive. Prior abandonment cases can also give the CPUC examples of the incentives or replacements that utilities could offer to affected ratepayers to help them switch to electric appliances.

Lower-Cost Alternatives to Repairs

In addition to targeted retirements of gas infrastructure, regulators could pursue policies that reduce the cost of maintaining the gas system without sacrificing safety and reliability. One possibility of that sort might be downrating gas pipes to lower pressures.

⁵⁹ [The Natural Gas Paradox: Shutting Down a System Designed to Operate Forever](#), Heather Payne, Maryland Law Review, June 2020

As gas throughput declines due to electrification policies and early gas infrastructure retirements, the pressure requirements in certain portions of the gas distribution system might decrease.⁶⁰ In regions where this happens, regulators could derate pipes to lower pressures to reduce the O&M costs of gas service.⁶¹

To explore this option, the CPUC could require gas utilities to test different approaches to achieving these cost reductions through pilot projects in their upcoming gas proceeding.

Making Electrification Accessible to All Californians

All of these efforts to transition off of the gas system will be made in vain if the state does not develop a plan to make electrification accessible and affordable for all Californians. Beyond this, California must commit to a plan that helps low-income and disadvantaged customers transition off of gas *as early as possible*—before gas rates become prohibitively expensive.

The CPUC has already taken several steps to address this challenge. In 2019, they revised outdated policies to make electric appliances eligible for billions of dollars in energy efficiency rebates.⁶² In February 2020, they allocated \$45 million for heat pump water heater incentives through 2025.⁶³ And in March 2020, they

established two programs under SB 1477 that allocate \$200 million of cap-and-trade revenue to making low-carbon space and water heating more affordable, with a focus on low-income housing.^{64 65}

In their gas proceedings, the CPUC will need to build on this progress. First and foremost, it is critical that they engage low-income and disadvantaged communities across California in the discussion to truly meet their needs, which may vary from community-to-community. This engagement should be accessible in multiple languages and could involve hosting gas planning workshops in the communities least able to afford electrification and centering community-based organizations throughout the gas transition.

While the recommendations ultimately adopted by the CPUC should come from low-income and disadvantaged communities themselves, various policy groups have published suggestions for addressing communities' needs.

RECOMMENDATIONS FROM GREENLINING

In 2019, the Greenlining Institute developed a framework for empowering communities through building electrification efforts. Their Equitable Building Electrification Framework consists of 5 steps.⁶⁶

⁶⁰ [California's Gas System in Transition](#), Gridworks, 2019

⁶¹ [The Challenge of Retail Gas in California's Low-Carbon Future](#), Energy and Environmental Economics, Inc., California Energy Commission, April 2020, p. 58

⁶² [2020 Looks Like the Breakout Year for Building Decarbonization in California](#), Greentech Media, August 2019

⁶³ [California Moves to Tackle Another Big Emissions Source: Fossil Fuel Use in Buildings](#), Greentech Media, February 2020

⁶⁴ [California Regulators Get Serious About Building Decarbonization](#), Greentech Media, February 2019

⁶⁵ [CA Launches \\$200M in Programs to Reduce Building Emissions](#), Natural Resources Defense Council, March 2020

⁶⁶ [Equitable Building Electrification A Framework for Powering Resilient Communities](#), Greenlining Institute, 2019

1. Assess the communities' needs, including their wishes, concerns, and any barriers to electrification
2. Partner with community-based organizations to establish community-led decision-making
3. Develop metrics and a plan for tracking both the climate and community benefits of electrification
4. Ensure funding and program leveraging to deliver maximum benefits to community members
5. Assess metrics and tracking to continually improve outcomes.

- Establish on-bill financing to help low- and middle-income customers pay the initial capital costs of electrification
- Pair electrification retrofits with energy efficiency programs to offset potential electric bill increases

The full Greenlining report can be accessed [here](#).

RECOMMENDATIONS FROM GRIDWORKS

Similarly, in 2019, Gridworks worked with the California Environmental Justice Alliance (CEJA) and other groups to develop the following policy suggestions for an equitable gas transition.

These suggestions include:

- Develop electrification pilot programs for low-income and disadvantaged communities, building on the CPUC's experience with the San Joaquin Valley Disadvantaged Communities Pilot Projects
- Pool from existing public funds, such as the Greenhouse Gas Reduction Fund, to provide additional electrification rebates and incentives to low-income customers

While these policies could assist low-income homeowners through the transition, California may need to take legislative action to assist the 70 percent of low-income Californians who rent their homes. Because landlords do not pay for utilities, they might not have an incentive to replace gas appliances with electric ones—leaving renters to absorb the cost of increasing gas prices. To address this, the CPUC could work with state legislators to introduce legislation requiring landlords to include utilities in rent - pending a comprehensive stakeholder process with affordable housing developers, tenant and low-income community advocates, and more.⁶⁷ The CPUC could also further align landlord and renter incentives by supporting a process (and potentially an independent entity) to evaluate and align split incentive challenges over the long-term. A set of solutions and draft enrollment, implementation, and evaluation processes can be evaluated through formal stakeholder workshops, with models to be considered that include the federal Weatherization Assistance Program (WAP) and SOMAH property owner-tenant agreement. The end goal would be electrification program incentive structures that benefit both renters and owners/developers, that are clear and can be paired with other incentive programs, and that increase uptake within the developer community.

⁶⁷ [The Natural Gas Paradox: Shutting Down a System Designed to Operate Forever](#), Heather Payne, Maryland Law Review, June 2020; [California's Gas System in Transition](#), Gridworks, 2019

THE SAN JOAQUIN VALLEY PILOT PROJECTS

In 2018, the CPUC opened the San Joaquin Valley Affordable Energy Proceeding to identify disadvantaged communities in the San Joaquin Valley and provide them with clean, affordable energy options, as required by AB 2672.

The second phase of this proceeding allocated \$56 million for pilot projects in 11 of the identified communities— including funds to electrify 1600 homes.⁶⁸ To implement these projects, the CPUC hosted community workshops focused on addressing affordability, bill protections, and the split incentives of renters and property owners.⁶⁹

In the third and final phase of this proceeding, the CPUC will analyze data from the pilot projects to assess the economic feasibility of extending similar affordable energy programs to the rest of the disadvantaged communities in the San Joaquin Valley. Moving forward, the pilot projects and workshops developed in the proceeding could provide a model for how the CPUC can effectively engage low-income and disadvantaged communities in the gas planning process and empower them with clean and affordable energy access through the transition.

It is also important that renters are not displaced if a landlord upgrades from gas to electric appliances. AB 1482: the Tenant Protection Act of 2019, may help prevent this by establishing rent control (no more than 5 percent rent increase per year) and just cause eviction guidelines.⁷⁰ Beyond these measures,

⁶⁸ [California's Gas System in Transition](#), Gridworks, 2019

⁶⁹ [San Joaquin Valley Affordable Energy Proceeding](#), CPUC, 2018

the CPUC should work with low-income and disadvantaged communities to ensure that renters' needs are met.

Providing a Just Transition for the Gas Workforce

Finally, regulators must work with labor unions to develop a plan for supporting the over 10,000 gas distribution workers in California through the energy transition.⁷¹ These employees have worked hard in their careers, sometimes for decades, in stable, family-supporting jobs. Many have built up pension, seniority, and other benefits in their positions. While the state has an obligation to take meaningful climate action, it also has an obligation to support these workers directly impacted by gas transition policies.

THE DIABLO CANYON MODEL

In 2018, the International Brotherhood of Electrical Workers (IBEW) Local 1245 partnered with PG&E, environmental groups, and community leaders to develop a just transition plan for Diablo Canyon nuclear plant workers. A key component of the plan was an agreement to keep the plant open for 7 extra years—long enough to replace Diablo Canyon generation with renewable energy.

For workers, the just transition plan establishes a 25 percent retention bonus to stay at Diablo Canyon through its closure. For workers close to retirement, the bonus is welcome news, and, for younger workers, it provides an incentive to stay at Diablo Canyon and prepare to decommission

⁷⁰ [Bill Text - AB-1482 Tenant Protection Act of 2019: tenancy: rent caps](#), California Legislative Information, October 8, 2019

⁷¹ U.S. Economic Census, 2012

the plant through a new training program—work that otherwise would have gone to outside contractors.⁷² For the local community, which relies on Diablo Canyon as a critical part of its tax base, the just transition plan provides an \$85 million package, lessening the blow to the community of the plant’s closure.

Overall, Diablo Canyon’s just transition plan is estimated to cost about \$174 million—but according to the NRDC, replacing the plant with clean energy will save PG&E ratepayers at least \$1 billion. Overall, they estimate that each PG&E customer will pay no more than 18 cents per month for the just transition during the collection period (2018-2025), but will continue to benefit from the cost savings long after the plant’s closure.⁷³ While this plan was approved by the State Legislature, the CPUC itself could empower unions with the funding for a just transition for gas workers if they collect funds on customer rates.

From a gas utility perspective, there is a need to sustain a workforce through 2045, to maintain the system until it is fully shut down and, potentially, to decommission gas infrastructure. This might involve retraining junior workers to manage the decommissioning process while providing incentives for senior employees to retire at the right time.

Gas-only utilities will need to approach just transition planning differently from multi-fuel utilities. PG&E, for example, might be able to maintain some gas positions through the transition and transfer any other willing employees from its gas division to its electric division. Such a plan could allow workers to

maintain their pay, pension, seniority, and other benefits, but would of course depend upon the willingness of gas workers to transfer to electric positions.⁷⁴ Single-fuel utilities, however, will face more challenges in supporting their workforce through the transition.

From a worker perspective, meaningful support might look like wage replacement or wage differential after they leave the gas workforce, early retirement benefits for senior employees, and job retraining programs for junior employees.

Gridworks has worked with the International Brotherhood of Electrical Workers (IBEW) Local 1245 to publish specific policy recommendations. Those include:

- Establish early retirement programs for gas distribution workers over 50
- Establish severance packages and offer extensions to workers willing to stay and/or move to different location on the system
- Establish a job description committee to determine how to deal with a shrinking workforce and evolving job responsibilities
- Provide wage protection as job descriptions change, during retraining, and for internal job changes
- Provide moving allowances and housing per diems to incent workers to move and work in areas where the gas distributing system is still in use
- Guarantee a position in a multi-fuel utility for workers who continue working in the gas distribution system as long as possible
- Provide preferential transfer rights for displaced gas workers at multi-fuel utilities

⁷² [Diablo Canyon: A Just Transition for Workers and the Environment](#), Tom Dalzell, UC Berkeley Labor Center, Nov 30, 2018

⁷³ [Diablo Canyon Accord Approved By California Legislature](#), Peter Miller, Natural Resources Defense Council, 2018

⁷⁴ [California’s Gas System in Transition](#), Gridworks, 2019

- Provide preferential training and retraining for displaced gas workers at multi-fuel utilities
- Provide retraining funding for workers who choose to leave the gas system
- Encourage electric or water utilities to hire displaced workers from gas-only utilities by offering credit/cost recovery

These suggestions, and the just transition plan approved for Diablo Canyon workers, offer a great starting point. The UCLA Luskin Center and Inclusive Economics found that building electrification in California could support an average of 64,200–104,100 jobs annually, after accounting for losses in the gas industry. A well-planned transition will support placement in a growing sector. The study cites additional planning recommendations that influence workforce placement success, such as leading with the large commercial and municipal, university, school, and hospital (MUSH) sector for electrification as it draws workers from registered apprenticeship programs and the unionized construction workforce. They also cite aggregated community-scale decarbonization to drive market transformation, and investing in district energy (most often combined heat and power, or CHP, systems) as a way to repurpose existing pipelines and workforce.⁷⁵

Ultimately, however, the CPUC and utilities should work closely with unions to develop and implement a comprehensive just transition plan for California’s gas distribution workforce.

⁷⁵ California Building Decarbonization: Workforce Needs and Recommendations, UCLA Luskin Center for Innovation, Inclusive Economics, 2019

STEPS OTHER JURISDICTIONS HAVE TAKEN

Policy research offers great guidance for an equitable gas transition, but the real-world experiences of other jurisdictions can help California understand which policies have been most successful. In recent years, many jurisdictions have committed to progressive climate action, and several—the Netherlands, Massachusetts, and New York State—have begun to develop plans to transition their buildings off of gas. Understanding the policies they have adopted can help California implement a successful gas transition plan, and offer insight into how regulatory proceedings on the future of gas in California might unfold.

The Netherlands

In 2015, the Hague District Court accelerated climate action in the Netherlands when it ruled that the country has a legal obligation to protect its citizens from climate change and ordered the government to achieve 25 percent emissions reductions from 1990 levels by 2020.⁷⁶ Since then, climate concerns and a series of gas-related earthquakes in the country’s Groningen province have driven the Netherlands to adopt a more ambitious climate goal: a complete phase-out of fossil gas by 2050.⁷⁷ In 2019, the country adopted a district-by-district approach to realize this goal.

CLIMATE POLICY BACKGROUND

The Netherlands relies on gas more than any other European Union country, and the

⁷⁶ State of the Netherlands v. Urgenda Foundation, Hague District Court, 2015

⁷⁷ [Climate policies](#), Government of the Netherlands, accessed September 2020

Groningen gas field is the largest in Europe. However, gas production in the Groningen field has induced earthquakes in the region since 1991, and, in 2018, it induced a magnitude 3.4 earthquake that prompted the Dutch government to announce the field's closure by 2030 at the latest.⁷⁸

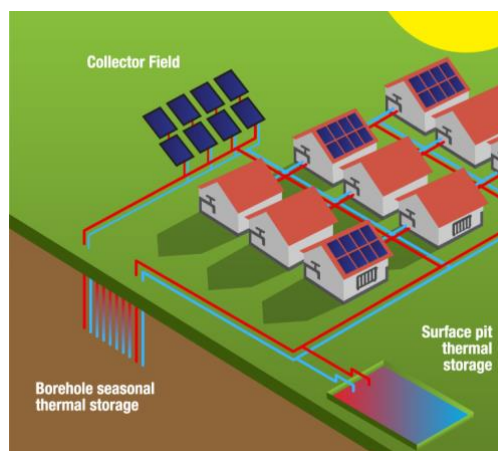
The same year, the Dutch government passed the Climate Act, which requires the country to reduce emissions 95% below 1990 levels by 2050. The National Climate Agreement, finalized in June 2019, outlines a sector-by-sector plan for achieving the country's Climate Act goals.⁷⁹

GAS TRANSITION PLANNING

The built environment section of the National Climate Agreement commits to reducing building sector carbon emissions by 3.4 Mt by 2030 and phasing out fossil gas entirely by 2050. It cites several motivations for this transition: climate change, ceasing natural gas extraction from Groningen, and lowering residential energy costs.⁸⁰ The Agreement primarily focuses on gas heating, which is the main use of gas in Dutch homes, and on existing buildings, since Dutch federal law already prohibits the use of fossil gas in new construction.⁸¹

The plan established in the Agreement centers on a realization that different Dutch districts might require different gas transition solutions. Densely developed areas might be well-suited

to district heating solutions, such as community-owned geothermal or solar heating; spread-out areas might require all-electric heating; and other areas might utilize green gas or hydrogen in existing pipes.⁸² Therefore, the Agreement does not establish a full transition plan, but rather establishes pilot programs (Test Beds for Natural Gas-free Districts) dedicated to finding a cost-neutral substitute for fossil gas heating.



A simple solar thermal district heating model⁸³

Using knowledge gained from the pilot programs, Dutch municipalities are each tasked with developing a gas transition plan, in consultation with stakeholders, by the end of 2021. To kickstart this transition, the Agreement allocates a €120 million subsidy for 32 districts to phase out fossil gas⁸⁴ and establishes a €50-80 million heat fund for

⁷⁸ [The great Dutch gas transition](#), Oxford Institute of Energy Studies, July 2019

⁷⁹ [Climate policies](#), Government of the Netherlands

⁸⁰ [National Climate Agreement - The Netherlands | Publicatie](#), Government of the Netherlands, June 2019, p. 16

⁸¹ [National Climate Agreement - The Netherlands | Publicatie](#), Government of the Netherlands, June 2019, p. 34

⁸² [National Climate Agreement - The Netherlands | Publicatie](#), Government of the Netherlands, June 2019, p. 16.

⁸³ [Solar District Heating - Solar Thermal Factsheets - Publications - ESTIF](#), European Solar Thermal Industry Federation, accessed August 2020

⁸⁴ [National Climate Agreement - The Netherlands | Publicatie](#), Government of the Netherlands, June 2019, p. 16.

individual homeowners to make sustainability upgrades.⁸⁵

Because the Dutch National Climate Agreement takes a district-by-district planning approach, several aspects of the gas heating transition are still unclear. Like California, an evaluation of the Agreement found that lower income groups could bear a relatively higher portion of climate policy costs than higher income groups, which should be addressed in the plans developed by Dutch municipalities.⁸⁶ Unlike California, the Netherlands takes an interest in carbon capture and storage (CCS) and fossil gas alternatives to meet the country's heating needs, potentially lowering the risk of stranded assets. The Netherlands' gas transition plan also relies on district heating solutions, which are widespread in Northern Europe but, in the United States, have mainly been reserved for college campuses and other institutions.

At the moment, the Dutch National Climate Agreement offers the CPUC an understanding of how alternative heating solutions and local leaders can be included in the gas planning process. But, like many jurisdictions, the Netherlands has yet to finalize gas transition plans. By October 2021, the CPUC may be able to look to the plans published by Dutch cities for more solutions to some of the challenges of the gas transition.

⁸⁵ [Highlights of the Dutch Climate Agreement](#)

⁸⁶ [The great Dutch gas transition](#), Oxford Institute of Energy Studies, July 2019

⁸⁷ [Global Warming Solutions Act Background](#), Mass.gov, accessed September 2020

⁸⁸ [Baker-Polito Administration Issues Letter Establishing Net Zero Emissions Target](#), Mass.gov, April 2020

Massachusetts

Massachusetts has long been a leader in U.S. climate action: passing the Global Warming Solutions Act in 2008, which committed the state to emissions reductions of at least 80 percent below 1990 levels by 2020⁸⁷; joining eight other Northeastern states in the Regional Greenhouse Gas Initiative (RGGI), the country's first mandatory cap-and-trade program for greenhouse gases; and, most recently, announcing a new state goal of net-zero GHG emissions by 2050.⁸⁸ And soon, Massachusetts might become only the third U.S. state after California and New York to open gas transition regulatory proceedings.⁸⁹ While Massachusetts regulators have not yet opened proceedings, a petition from the Massachusetts Attorney General offers an idea of how gas transition proceedings in the state might unfold.

CLIMATE POLICY BACKGROUND

The judicial system has long played a role in furthering climate action in Massachusetts. In 2016, the Massachusetts Supreme Judicial Court ordered the Massachusetts Department of Environmental Protection (MassDEP) to impose emissions limits after finding that the Department had failed to implement the Global Warming Solutions Act of 2008.⁹⁰ Then, following a series of deadly, high-profile gas explosions in 2018, the Massachusetts U.S. Attorney's Office ordered Columbia Gas to sell its gas assets in the state, in addition to paying millions of dollars in damages and fines.⁹¹ And

⁸⁹ [Massachusetts directs agency to study phase-out of natural gas](#), Reuters, June 2020

⁹⁰ [Kain v. Massachusetts Department of Environmental Protection](#), (Mass. 2016)

⁹¹ [Massachusetts Gas Company to Plead Guilty After Fatal Explosion](#), New York Times, Feb 26, 2020

on the federal level, Massachusetts has sued both the Environmental Protection Agency⁹² and ExxonMobil⁹³ for failing to regulate carbon dioxide emissions and for violating the Consumer Protection Act, respectively.

GAS TRANSITION PLANNING

In June 2020, while still engaged in litigation with ExxonMobil, Massachusetts Attorney General Maura Healy filed a petition with the Massachusetts Department of Public Utilities (DPU), urging them to open proceedings on the future of natural gas in the state.⁹⁴ While the DPU has yet to publicly respond,⁹⁵ AG Healy's petition indicates how gas proceedings in Massachusetts might unfold.

The petition recommends a two-phased approach: first gathering gas demand forecasts based on state climate policies from Massachusetts gas utilities and determining the necessary regulatory changes for a gas transition, then developing a plan to implement those changes in a way that protects gas consumers.⁹⁶

Like the Netherlands, Massachusetts has yet to finalize long-term gas planning, but AG Healy's petition to the DPU offers a promising start. The structure of the proposed gas planning procedure at the DPU is similar to that of California's gas proceedings, and may offer more guidance before the CPUC's gas transition proceedings begin in October 2021.

⁹² [Massachusetts v. EPA](#), U.S. Supreme Court, 2007

⁹³ [Fossil Fuels on Trial: Where the Major Climate Change Lawsuits Stand Today](#), InsideClimate News, January 2020

⁹⁴ [AG Healy Calls on the Department of Public Utilities to Investigate the Future of Natural Gas Utilities in Massachusetts](#), Mass.gov, June 22, 2020

⁹⁵ *As of September 4, 2020*

New York State

Like Massachusetts, New York State has emerged as a leader in U.S. climate policy: committing to economy wide carbon neutrality by 2050, participating in RGGI, and becoming the second U.S. state to open gas transition regulatory proceedings. While the New York Public Service Commission (PSC) has not yet filed a gas transition plan in these proceedings, the public comments submitted to the Commission offer comprehensive and useful recommendations for an equitable gas transition.

CLIMATE POLICY BACKGROUND

In 2019, New York adopted the long-awaited Climate Leadership and Community Protection Act (CLCPA), requiring economy wide carbon neutrality by 2050.⁹⁷ To achieve its goals, the CLCPA established the New York Climate Action Council, tasked with creating a scoping plan and releasing updates on climate progress every four years.

In response to this legislative action, some of New York's utilities have prepared to transition away from gas. In 2019, Consolidated Edison (ConEd) and Corning Natural Gas began to publicly consider accelerating the depreciation schedules for their gas assets, and ConEd and National Grid upset customers when they issued moratoria on new gas service in some areas to avoid further gas investments.⁹⁸ These events led the New York PSC to open a

⁹⁶ [Petition of the Office of the Attorney General](#), Massachusetts Office of the Attorney General, June 4, 2020, p. 17

⁹⁷ [New York passes the country's most ambitious climate target](#), Vox, July 2019

⁹⁸ [NYS Aligning Long-Term Planning for Gas Utilities with Carbon Neutrality Mandate](#), Hodgson Russ LLP for JDSupra, April 27, 2020

Proceeding on Gas Planning Procedures on March 19, 2020, aimed at increasing transparency and accountability through the gas transition.

GAS TRANSITION PLANNING

The first phase of the New York Gas Planning Proceeding required gas utilities to file supply and demand analyses for their service areas by July 17, 2020.⁹⁹ Using this information, PSC staff will file a White Paper proposing a gas transition plan on September 21, 2020.¹⁰⁰ In advance of the Staff White Paper, three groups—a coalition composed of 130 organizations, a research group called the Pace Energy and Climate Center, and the Renewable Heat Now campaign—have filed comments with the PSC to recommend gas transition policies.

In July 2020, 130 organizations filed a joint comment with the PSC outlining broad goals and guiding principles for New York’s gas transition. Among other things, they assert that continued investment in gas infrastructure is irresponsible and urge the PSC to prohibit further gas investments, unless necessary for safety reasons.¹⁰¹

In July 2020, the Pace Energy and Climate Center filed a comment with the PSC on behalf of the Rockefeller Brothers Fund.¹⁰² In it, they outline their “zero net gas strategy” to balance any increase in gas demand with a reduction elsewhere on the system. In the comment, they encourage the PSC to adopt gas moratoria, to align building codes with

decarbonization goals, and to address stranded assets by either allowing utilities to receive tax deductions on them or securitizing them.

ADDITIONAL JOINT COMMENT RECOMMENDATIONS

1. Address the fact that utilities are allowed to socialize the cost of new gas connections, often making it free for individual building owners to connect to the gas system
2. Repurpose the billions of dollars invested by utility customers into the gas system to instead fund renewable heating infrastructure and electrification
3. Require transparent, standardized reporting of new gas connection costs and an accounting of pipeline depreciation
4. Begin decommissioning pipelines, especially in areas with leaky pipes or potential gas shortages
5. Engage utilities, community organizations, engineers, scientists, and the heat pump industry in gas transition planning
6. Ensure affordability and accessibility for low income customers.

In August 2020, Renewable Heat Now, a campaign organized by Earthjustice, New

⁹⁹ [Order Instituting Proceeding](#), New York Public Service Commission, March 19, 2020

¹⁰⁰ [Ruling on Extension Request](#), New York Public Service Commission, August 28, 2020

¹⁰¹ [Gas Planning Comments by 130 Orgs](#), Renewable Heat Now, July 16, 2020

¹⁰² [Pace Energy and Climate Center Zero Net Gas Policy Framework July 2020](#), Pace Energy and Climate Center, July 27, 2020

Yorkers for Clean Power, Alliance for a Green Economy, and more,¹⁰³ filed a comment with the PSC building on the 130-organization joint comment with more specific recommendations for New York’s gas transition.¹⁰⁴ In it, Renewable Heat Now urges the PSC to adopt the following principles for the transition and recommendations on how to implement them.¹⁰⁵

- Transparency. Utilities communicate any gas moratoria or other changes well in advance and explain their decision-making process and any associated timelines.
- Affordability. Examine and change how gas costs are distributed and how electrification funds are made available to ensure low-income customers are supported.
- Equity. Consider impacts on environmental justice and low-income communities and distribute the benefits of the gas transition equitably.
- Public collaboration. Develop a public engagement process that facilitates multi-stakeholder planning and sets clear goals and timelines.
- Just Transition. Attend to the training, transition, and employment needs of gas utility and HVAC workers by engaging them in the planning process, and ensure equitable access to jobs created by the gas transition for people who currently experience employment and education discrimination.

- Accountability. Provide funding to utilities to enable them to meet their goals, and impose financial penalties or other compliance mechanisms on utilities that fail to do so.
- Comprehensive planning. Ensure that the electric system can handle increased load from building and transportation electrification.

ADDITIONAL RENEWABLE HEAT NOW RECOMMENDATIONS

1. Set clear emissions reductions goals for New York utilities and consider Renewable Heat Now’s proposed reduction targets, which are based on an analysis by a Senior Fellow at Physicians, Scientists and Engineers¹⁰⁶
2. Halt the growth of gas use and the gas system by incorporating the Pace Energy “zero net gas strategy,” prohibiting or limiting utilities from marketing gas, ending incentives for gas expansion, and clearly communicating to customers that New York is transitioning off of gas.
3. Work with the Climate Action Council, other agencies, and state legislators to implement the gas transition, including by: ending the 100-foot subsidy, which socializes the cost of gas infrastructure and makes new gas connections free to building owners, and developing model building codes for cities to adopt to bar gas in new construction.

¹⁰³ Renewable Heat Now is a campaign organized by Acadia Center, Alliance for a Green Economy, Binghamton Regional Sustainability Coalition, Earthjustice, Food and Water Action, Fossil Free Tompkins, Frack Action, HeatSmart Tompkins, Mothers Out Front, New Yorkers for Clean Power, NY-GEO, NYPIRG, Pace Energy and Climate Center, Rochester People’s Climate Coalition, and Sane Energy Project.

¹⁰⁴ [Preliminary Comments Renewable Heat Now Gas Planning](#), Renewable Heat Now, August 10, 2020

¹⁰⁵ [Preliminary Comments Renewable Heat Now Gas Planning](#), Renewable Heat Now, August 2020, p. 9

¹⁰⁶ [Preliminary Comments Renewable Heat Now Gas Planning](#), Renewable Heat Now, August 10, 2020, p. 6

4. Begin studies now to inform the transition, including: an investigation of astroturfing and lobbying by gas utilities and analyses of gas leak and explosion risks, the potential cost of stranded assets, what communities currently bear the burden of gas health and safety risks, and what communities will pay for stranded assets.¹⁰⁷

The comments filed with the New York PSC offer examples of the recommendations that the Building Decarbonization Coalition might submit to the CPUC in 2021. Additional resources, including the Staff White Paper and further public comments, will also be made available on the New York State Department of Public Service as they are filed: [NYSDPS-DMM: Matter Master](#).

MAIN GOALS FOR THE BUILDING DECARBONIZATION COALITION

Finally, synthesizing the many recommendations from policy research with the experiences of other jurisdictions offer the Building Decarbonization Coalition a promising roadmap for California's gas transition. In Mid-October 2021, when the CPUC opens Track 2 of their gas transition regulatory proceedings, the Coalition will have the opportunity to submit these recommendations to the state in comments.

The Coalition's recommendations to the CPUC should advance the following overarching goals:

1. Minimize further gas system expenditures.
2. Establish a regulatory approach for equitably financing gas assets, including decommissioning costs.
3. Make further plans to ensure that low-income and disadvantaged community members are able to transition off of gas first.
4. Empower unions and gas-serving utilities with the resources they need to implement a just transition for the gas distribution workforce.

CPUC GAS PROCEEDINGS: TRACK 2 TOPICS

1. Between the "Time Horizons" 2019-2030, 2030-2040, and beyond 2045, how can the CPUC ensure safe and reliable gas service at just and reasonable rates?
2. How can the CPUC mitigate stranded costs and additional operations and maintenance expenses?
3. Should the CPUC establish a threshold to determine when gas infrastructure should be replaced to meet reliability needs?
4. Should the CPUC adopt changes to gas rate design and cost allocation, and would those changes raise affordability concerns?
5. How should the CPUC balance the need to maintain gas-fired generation in the short term for reliability purposes with the need for economic retirements?
6. How will the utility workforce be impacted by a transition away from gas, and how should the CPUC address this in the planning process?

¹⁰⁷ [Preliminary Comments Renewable Heat Now Gas Planning](#), Renewable Heat Now, August 2020, p. 14

Minimize Gas System Expenditures

California's climate legislation makes it clear that new investments in the gas system will only burden ratepayers. They detract from the state's ability to address the urgent challenge of climate change, and they will only exacerbate the cost challenge of the gas transition—especially for the 80 percent of low-income Californians who already feel their utility bill is too high.¹⁰⁸ In their gas proceedings, the CPUC should establish policies as soon as possible to discourage or prohibit new, unnecessary investments in California's gas system.

First and foremost, the CPUC should establish a threshold for determining whether a new gas investment is strictly necessary for safety and reliability purposes. New gas investments that do not meet the threshold should not be eligible for inclusion in the rate base past a certain date, while those that do should be subject to committed decommissioning. The Commission's goal should be to align long-term planning proceedings with gas cost recovery proceedings (see Rhode Island Long Range Plan and Gas Cost Reconciliation). The gas cost recovery proceeding should be annual, and should require direct cost comparison against additional non-pipe alternatives (demand response, efficiency, electrification).¹⁰⁹

Relatedly, the CPUC should work with the gas-serving utilities to identify areas of the gas distribution system that are in need of repairs or replacements. They should establish pilot programs for geographically targeted electrification in these areas, using the avoided costs of repairs to finance electrification efforts.

Utilities' obligation to serve, however, could get in the way of these retirements. If this is still a barrier in 2021, the CPUC should work with the state legislature to bring utilities' obligation to serve into alignment with California's decarbonization goals, or they should clarify to utilities that the high risk of new gas expenditures justifies opening abandonment proceedings to avoid incurring new gas costs.

Additionally, the CPUC should adopt policies that discourage new customer connections to the gas system: ending the gas line extension allowance and shifting the upfront cost of a new gas connection to the incoming customer. These measures would ensure that the utilities collect the cost of a new gas line before the new customer leaves the system, shifting the risk of the investment from gas customers as a whole to the incoming customer.

Finally, the CPUC should work with utilities to explore options for reducing gas system O&M costs, and pilot programs to test these methods. One such opportunity might be derating pipes to operate at a lower pressure as gas throughput declines in some areas. Lowering the cost of operating the system would deliver cost savings to ratepayers and lessen some of the gas rate impacts of the gas transition.

Minimizing further gas expenditures with these methods will also help the CPUC achieve another critical goal: equitably financing the gas transition.

¹⁰⁸ [California's Gas System in Transition](#), Gridworks, 2019, p. 24

¹⁰⁹ [Aligning Gas Regulation and Climate Goals A Road Map for State Regulators](#), Environmental Defense Fund, 2021.

RECOMMENDATIONS FOR MINIMIZING GAS SYSTEM EXPENDITURES

- Establish a threshold for determining which new gas investments are strictly necessary for safety and reliability reasons
- Establish pilot programs for geographically targeted electrification, working with utilities to identify prime opportunities
- Establish a “bright line” after which no new, unnecessary gas investment can be included in the rate base
- Work with legislators to address gas utilities’ ‘obligation to serve’, or encourage abandonment proceedings
- End the gas line extension allowance
- Shift the upfront cost of a new gas connection to the entering customer
- Work with utilities to establish pilot programs that explore options for reducing gas system O&M costs

Equitably Finance the Gas Transition

To finance gas assets equitably, without burdening low-income ratepayers or future generations with an undue portion of the cost, the CPUC needs to begin redistributing the costs of gas infrastructure as soon as possible. As a first step, the CPUC should work with utilities to determine the value of the gas system, the costs associated with decommissioning it, and the timeframe over which individual gas assets should be expected to operate.

Using this information, the CPUC should develop accelerated depreciation schedules for

gas assets that are likely to be stranded, including committed decommissioning for any new gas expenditures.

To mitigate the near-term rate impact of accelerated depreciation, the CPUC should establish bill protections for low-income gas ratepayers. They should also consider working with the California Legislature to securitize both the accelerated portions of asset costs and expected decommissioning costs, which would mitigate near- and long-term rate increases.

To further minimize the cost of transition to residential ratepayers, the CPUC should consider switching from their current cost allocation method to a usage-based cost allocation. This would shift costs from residential and small business ratepayers to larger, industrial customers—delivering equity benefits but potentially raising competitiveness concerns for California companies.

To mitigate rate increases for low- and middle-income gas ratepayers, the CPUC should also adopt a progressive rate structure that targets high-income gas customers who use the system infrequently, such as a fixed charge for ‘luxury appliances’ or in often-vacant vacation homes. While a challenging implementation model, one idea under discussion is a fixed charge applied based on income, with reimbursements distributed based on Earned Income Tax Credit, modeled after subsidies within the Affordable Care Act.¹¹⁰

¹¹⁰ Borenstein, Severin. [“Reinventing Fixed Charges”](#) November 16, 2020

RECOMMENDATIONS FOR EQUITABLY FINANCING GAS ASSETS

- Adopt recommendations for minimizing further gas system expenditures
- Work with utilities to determine the remaining costs associated with the gas system as a whole and individual assets
- Develop accelerated depreciation schedules for gas assets, including committed decommissioning for any new investments
- Implement bill protections for low-income customers
- Consider working with legislators to securitize both the accelerated portions of gas asset costs and decommissioning costs
- Consider shifting from a peak-day gas cost allocation to a usage-based allocation
- Adopt a minimum bill or fixed charge for high-income gas customers who use gas infrequently
- Determine how much additional funding is needed to mitigate gas rate increases, and begin working with the legislature to fill that gap

Finally, the CPUC needs to begin exploring additional funding options to mitigate the gas rate impact of the transition. E3 estimates that to mitigate high gas costs for PG&E alone, California would need \$16 billion between 2030 and 2050 in addition to what is collected from gas customers.¹¹¹ Therefore, it is critical that the CPUC determine how much exactly is needed between now and 2050, and begin working with the Legislature to fill that funding gap.

Empower Low-Income and Disadvantaged Communities through the Transition

Reaching California’s climate goals will require the involvement of all Californians. But for the 33 percent of California households which are low-income, and for many middle-income households, transitioning from gas to electric appliances might be prohibitively expensive.¹¹² The CPUC must adopt a gas transition plan that not only enables these families to switch from gas to electric appliances, but also centers them in the planning process.

First and foremost, the CPUC should work closely with community leaders and organizations across California to address the diverse needs of the state’s low-income and disadvantaged communities. These voices should be central to the planning process, and should inform the steps the CPUC takes to address communities’ needs. These efforts might include hosting gas planning workshops in low-income and disadvantaged communities, conducting outreach in multiple languages, and building on the San Joaquin Valley workshop to establish electrification pilot programs in low-income communities.

¹¹¹ [California’s Gas System in Transition](#), Gridworks, 2019

¹¹² [California’s Gas System in Transition](#), Gridworks, 2019

RECOMMENDATIONS FOR MAKING ELECTRIFICATION ACCESSIBLE

- Work with the legislature to secure additional funding as needed
- Center leaders and organizations from low-income and disadvantaged communities in the gas planning process
- Establish pilot programs for electrification in low-income and disadvantaged communities, drawing on the San Joaquin Valley model of community engagement
- Establish on-bill financing to assist with the upfront capital costs of electrification
- Expand incentive programs and rebates for electrification and energy efficiency
- Effectively communicate electrification opportunities to low-income and disadvantaged communities through meaningful outreach
- Work with the legislature as needed to build on the renter protections established AB 1482
- Work with the legislature to require landlords to include utilities in rent

Following community input, the CPUC should develop a plan for funding the programs needed to empower low-income and disadvantaged communities through the transition. These programs might include expanding existing energy efficiency and electrification programs, establishing on-bill financing to assist with the upfront costs of electric appliances, and developing methods of effectively connecting these resources with the people who need them most.

Finally, the CPUC will need to take special measures to protect low-income renters from gas rate increases. To do this, they should work with the legislature as needed to expand the

renter protections established in AB 1482 and work to introduce new legislation that would require landlords to include utilities in rent. Given AB 1482's rent control guideline, including utilities in rent would incentivize landlords to switch from gas to electric appliances as gas rates increase. To assist this transition, the CPUC should also make further electrification funds available to low-income housing owners as necessary.

Just Transition for Gas Workers

Finally, the CPUC must empower unions with the information and funding they need to implement a just transition for California's more than 10,000 gas distribution workers.

First, the CPUC should work with labor unions and gas-serving utilities to establish shutdown dates for gas infrastructure. This information has been critical to just transition planning efforts for both Colorado coal plant workers and Diablo Canyon nuclear plant workers, and will assist unions in their just transition planning.

Second, the CPUC should develop a plan now for funding a just transition for the gas workforce. They might adopt the Diablo Canyon funding model, collecting funds for the transition on customer rates over a prolonged collection period, or they might work with the state legislature to secure funding; regardless, they should begin securing funds to support a just transition as soon as possible.

RECOMMENDATIONS FOR IMPLEMENTING A JUST TRANSITION FOR THE GAS WORKFORCE

- Begin securing funding for a just transition for the gas workforce now, exploring the Diablo Canyon model of collecting funds on customer rates or working with the legislature to finance the transition
- Work with unions and utilities to establish decommissioning dates for gas infrastructure, which will assist unions in their just transition planning
- Direct utilities to implement the just transition policies recommended by labor unions

For specific policies, the CPUC should defer to labor unions, who are best suited to support their members. They should be sure to develop comprehensive plans for the transitioning workforce - including those who will need to continue working on the remaining gas system; those who will transition out entirely from gas pipeline work; as well as the gas plumbers and pipefitters who will need to find a new trade. For the needed remaining gas utility workforce, a just transition plan should consider providing severance, contract extensions, moving allowances, and future job guarantees. An analysis should first be conducted to determine the size of the workforce needed to safely operate the system (the skills needed, what job classifications, the size of the workforce). Then, severance packages and contract extensions should be provided to the remaining workforce for as long as they will be needed (drawing from the agreement between PG&E and IBEW 1245 as part of Diablo Canyon's retirement). The CPUC should aim to develop a plan for the geographic locations where the gas system will

continue to be operational, and should provide moving allowances to any workers who need to relocate to those sites. Knowing that these jobs will have a set duration, dual-commodity utilities should plan in advance to have guaranteed positions and advanced training for these workers to eventually transition to the electrical side of the business.

For the remaining displaced workers, the Commission should consider training and retraining, wage protection, and early retirement programs for late career workers. As this transition will take multiple decades, the most important task is to start planning now. Dual-commodity utilities should transfer gas employees to the electrical side of the business, and provide training/retraining, job guarantees, preferential bidding or transfer, and continuation of benefits. For gas-only utilities, these workers will lose their pensions and benefits and will need a combination of training/retraining as well as wage protection and early retirement buyout programs. For those who can be incented and are able to move out of the gas business, training programs and incentives to move to new crafts should be provided. For single-commodity electric and water utilities, the Commission should consider cost recovery for hiring displaced gas workers from gas-only entities.

Finally, a just transition for plumbers and pipefitters must also be developed, that ensures replacement work, training and retraining, wage protections, or early retirement. As much of this line of work will be entirely eliminated, a just transition plan should be developed early-on that includes wage protection and training for early and mid-career workers, and early retirement options for late-career workers.

Some of the measures they might recommend include enabling gas distribution workers to switch to water or electric utility positions, training workers to decommission the gas system, providing wage differential or wage replacement for gas distribution workers who decide to leave the system, and providing early retirement packages to senior workers.

For guiding principles for the transition, the CPUC might additionally look to the [National Economic Transition Platform](#) for coal communities put forth by local, tribal and labor leaders and supported by the BlueGreen Alliance. Wherever possible, the just transition for the gas workforce should aim to align with the 7 Platform Pillars put forth in that plan, including workforce development and worker health, reclamation, and local leadership.

Overall, the CPUC should defer to labor unions for specific planning decisions while empowering unions and utilities to implement their plan. They should be prepared to support and finance a comprehensive and bold plan, such as the plan put forward in this section.

Remaining Uncertainties

Between now and Mid-October 2021, some circumstances might change what is possible or necessary for California's gas transition regulatory proceedings. This is because California's energy transition is expansive: requiring the coordination of many state decision makers and multiple decarbonization efforts. Some uncertainties that might impact gas transition planning include the future of 'obligation to serve' policies, the potential for a public takeover of PG&E, and need to

coordinate building electrification efforts with other decarbonization measures.

OBLIGATION TO SERVE

One primary barrier to minimizing further expenditures on the gas system is gas-serving utilities' obligation to provide gas service to customers at the authorized rates. By 2021, it is possible that the state legislature will have clarified this policy to align with California's decarbonization goals. Alternatively, the California Energy Commission might have published a progressive 2021 building code that limits or bans the use of gas in new construction. Otherwise, the CPUC will need to work around 'obligation to serve' policies or work with the legislature to change them—potentially limiting the scope of the CPUC's gas transition proceedings.

ENSURING RELIABLE ELECTRICITY ACCESS

In their Track 2 planning, the CPUC will also consider how to balance the need to maintain gas-fired electricity generation in the short-term for reliability purposes with the need for economic retirements. This issue is related to a second uncertainty: the impact of increased building and transportation electrification on grid reliability.

As economy wide electrification efforts progress and climate change leads to more extreme weather events, California may need to slow its transition away from gas infrastructure to maintain reliable electricity access. This will be a key consideration at the CPUC in coming years, and may impact the gas transition policies they are able to adopt.

PUBLIC TAKEOVER OF UTILITIES

Finally, ongoing efforts to municipalize or establish a statewide takeover of PG&E, and potentially other investor-owned utilities, could change the landscape of the 2021 gas transition proceedings.

Governor Gavin Newsom first floated the idea of a public takeover of PG&E in 2018, after one of their transmission lines sparked a devastating wildfire and led them to declare bankruptcy. Since then the idea has gained traction. Loretta M. Lynch, the former president of the CPUC has advocated for a statewide takeover of PG&E, calling public power “cheaper, safer [and] cleaner.”¹¹³ City leaders in San Jose and San Francisco have also explored municipalization of the PG&E’s operations in their communities.¹¹⁴ And currently, there is a bill in committee in the California Senate that would establish a public buyout of PG&E.¹¹⁵ It is worth noting, however, that IBEW is opposed to this bill on the grounds that it could lead to job and pension losses.¹¹⁶

If the state does take over PG&E, the CPUC might have greater leeway in implementing a gas transition—however, the main political obstacle to building electrification in California is Southern California Gas (SoCalGas). Since 2019, SoCalGas has been engineering

‘astroturfing’ campaigns to mislead the public, and especially low-income communities, about the potential for gas use in a decarbonized future. While unlikely, if California were to purchase SoCalGas, the CPUC might gain even greater public support for progressive gas transition policies.

CONCLUSION

Through their gas transition proceedings, the California Public Utilities Commission has the opportunity to show that climate action can and should be equitable—leaving no segment of the state’s population behind. Developing a plan that not only meets the challenge of climate change, but also supports the gas workforce, equitably distributes the cost of the gas transition, and empowers low-income and disadvantaged communities, could lay the groundwork for necessary, global change.

Record-breaking heat waves, smokey red skies, and devastating wildfires are all painful reminders of the deep need for climate action in California and across the world. In 2021, the Building Decarbonization Coalition should push the Commission to adopt the bold policies that are necessary to meet the scale of this crisis while ensuring that that all Californians share in the benefits of the energy transition

¹¹³ [Publicly owned utilities ‘not a panacea’ but can produce customer benefits](#), Energy News Network, 2019

¹¹⁴ [Publicly owned utilities ‘not a panacea’ but can produce customer benefits](#), Energy News Network, 2019

¹¹⁵ [SB-917 California Consumer Energy and Conservation Financing Authority: eminent domain: Northern California Local](#)

[Energy Utility District: Northern California Energy Utility Services](#), California State Senate, April 2020

¹¹⁶ [What happens if California takes over PG&E?](#), CalMatters, February 2020