January 10, 2022

Filed electronically

Mr. Jeffrey R. Gaudiosi, Esq.
Executive Secretary
Public Utilities Regulatory Authority
10 Franklin Square
New Britain, CT 06051

Re: Notice of Request for Written Comments in PURA Docket 21-08-24, Petition of William Tong, Attorney General for the State of Connecticut, and the Office of Consumer Counsel for an Investigation into Eversource Energy Regarding Gas Expansion Marketing

Dear Secretary Gaudiosi,

Thank you for the opportunity to comment. The undersigned organizations, Conservation Law Foundation, Save the Sound, Sierra Club, People's Action for Clean Energy, Eastern CT Green Action, and Acadia Center are gravely concerned that the gas expansion plan negatively impacts gas ratepayers and is hindering Connecticut's efforts to meet the binding climate targets in the state's Global Warming Solutions Act (GWSA).[1] We expressed these and other concerns about the plan in working group meetings and written comments in Docket No. 13-06-02RE05. We appreciate that the Public Utilities Regulatory Authority (PURA) is providing an additional opportunity for public comment in the above-captioned docket as it "consider[s] any appropriate modifications to the Authority's decisions in the Gas Expansion Plan Docket and the associated reopened dockets."[2]

1. ***Office of Education, Outreach, and Enforcement's (EOE) December 10, 2021 Report (EOE Report), p. 32. The EOE Report suggests limiting future projects to those that include anchor loads as a first step toward downsizing the program, if it is to continue. Discuss or propose other suggestions for downsizing the program for the duration of the life of the plan, should it continue.***

As discussed further in our response to Question 2, we recommend that PURA end the gas expansion plan as soon as possible, and that no new projects should be approved following PURA's final decision in this docket. If, however, the program continues for the full ten-year period (*i.e.*, until January 31, 2023) or some lesser duration, PURA should require a mechanism to ensure that the program is consistent with state climate policy under the GWSA[3] and that any future projects do not increase greenhouse gas emissions.

[1] Conn. Gen. Stat. § 22a-200a(a).
[2] Docket No. 21-08-24, Notice of Request for Briefs for Phase 2 and Notice of Request for Written Comments (Dec. 20, 2021).
[3] Conn. Gen. Stat. § 22a-200a(a).

If the gas expansion plan continues for any duration, PURA should downsize the program by requiring that any future projects be limited to those that the local gas distribution companies (LDCs) demonstrate: (1) will result in a net decrease in greenhouse gas emissions relative to the least emissions-intensive heating alternative, and (2) will not compromise Connecticut's ability to achieve its climate goals established under the GWSA.[4] To satisfy this requirement, the LDC must demonstrate that the project will reduce greenhouse gas emissions for the target customers compared to the least emissions-intensive alternative, *i.e.*, converting those customers to electric heat pumps.[5] This comparison must include carbon dioxide emissions from burning the gas and methane emissions associated with gas leakage. The emissions analysis must be submitted to PURA for review and approval prior to project construction. This metric would ensure that only projects that advance Connecticut's climate goals by reducing emissions to the maximum extent relative to other heating options could be built.

We do not support downsizing the gas expansion plan by requiring all new projects to include an anchor load, as the EOE Report suggests. An anchor customer,[6] as defined under the 2014 Settlement Agreement,[7] is one that represents 10% or more of the gas company's expected breakeven revenue for a project. A contractual commitment is required for all anchor customers prior to construction.[8] However, that still leaves a substantial risk of default among the remaining smaller customers, and it does not address low customer demand due to higher gas prices, which has persisted for years. Nor does it resolve the inconsistency between the gas expansion plan and Connecticut's climate goals. Adopting this proposed downsizing measure would be imprudent because it does not adequately address documented problems with the gas expansion plan.

2. ***Discuss parameters and offer proposals for Authority consideration in winding down the program at the conclusion of calendar year 2022, at the conclusion of calendar year 2023, or at some other defined point. Include references to reporting metrics and processes that would need to continue and for what length of time following the conclusion of the active portion of the SEP (defined as no additional new expansion projects).***

As discussed in these comments, the gas expansion program is unnecessary, outdated, and inconsistent with Connecticut's climate goals. PURA should end the program as soon as possible. Based on the current schedule for this docket, PURA expects to issue a final decision

[4] *Id.*
[5] Reducing emissions relative to those produced from using heating oil would not meet this threshold.
[6] Anchor load is not defined in PURA's 2013 Decision approving the gas expansion plan, nor in the 2014 Settlement Agreement. The latter does define the term "anchor customer." We assume for the purpose of discussion that the EOE Report is using the term "anchor load" synonymously with the term "anchor customer." However, PURA should clarify whether "anchor load" has the same meaning as "anchor customer."
[7] Docket No. 13-06-02RE01, Joint Motion for Approval of Settlement Agreement, Exhibit A - Settlement Agreement, 2 (Oct. 22, 2014).
[8] *Id.* at 5.

on April 27, 2022.[9] No additional new expansion projects should be approved following this decision.

Modifying the gas expansion plan could ameliorate some of the negative impacts of this program (*e.g.*, by bringing down the cost to ratepayers). But minor modifications are not the best path forward. The numerous problems with the program documented in the EOE Report, along with the climate impacts of gas and the urgent need to transition away from fossil fuels as quickly as possible, demand that PURA end the expansion program as soon as possible.

The authorizing legislation for this program, which was enacted in 2013, required the gas companies to submit "[a] customer conversion plan and schedule for a ten-year period."[10] However, nothing in the statute requires the gas expansion plan to continue for the full ten years. Moreover, PURA has authority to modify its Decisions regarding the program,[11] and such modification may include ending the approval of new expansion projects. Numerous problems with the gas expansion plan, including rising costs, negative cost impacts on ratepayers, the LDCs' failure to reach conversion targets, and stark incompatibility with the state's climate policies argue in favor of PURA ending the program as soon as possible.

It does not make sense financially or from a climate perspective to continue subsidizing the expansion of gas infrastructure and increasing Connecticut's reliance on gas when it is increasingly clear that all fossil fuels must be phased out in a rapid but equitable transition to clean energy. States are implementing policies and proceedings to achieve their building sector decarbonization goals by eliminating gas in new construction and transitioning existing buildings to electric heating. New York, for example, recently announced a broad suite of policies that includes requiring all new construction to be zero-emission by 2027, accelerating the rate of building electrification, ending the statutory obligation to serve customers with natural gas, and "[ensuring] that gas utilities minimize investments in costly new infrastructure and promote alternatives to minimize gas demand."[12] At the local level, over forty California cities and counties have restricted or banned the use of gas in new buildings.[13] California's latest building code further promotes electrification by establishing heat pumps as the baseline technology for new construction.[14] Most recently, New York City banned gas in most new construction,[15] a major development that is likely to spur more gas bans in other jurisdictions, including locations on the East Coast.

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[9] Docket No. 21-08-24, Notice Regarding Investigation Timeline, 3 (Dec. 20, 2021).
[10] Conn. Gen. Stat. § 16-19ww(a)(1).
[11] Conn. Gen. Stat. § 16-9.
[12] New York State Energy Research and Development Authority, *Governor Hochul Announces Plans to Achieve 2 Million Climate-Friendly Homes by 2030* (Jan. 5, 2022), https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-01-05-Governor-Hochul-Announces-Plan-to-Achieve-2-Million-Climate-Friendly-Homes-By-2030.
[13] Anne Mulkern, Scientific American, *California Is Closing the Door to Gas in New Homes* (Jan. 4, 2021), https://www.scientificamerican.com/article/california-is-closing-the-door-to-gas-in-new-homes/.
[14] Kavya Balaraman, Utility Dive, *California greenlights first-of-its-kind energy code to encourage electrified buildings* (Aug. 12, 2021), https://www.utilitydive.com/news/california-greenlights-first-of-its-kind-energy-code-to-encourage-electrifi/604863/.
[15] Scott Disavino, Reuters, *New York City bans natural gas in new buildings* (Dec. 15, 2021), https://www.reuters.com/markets/us/new-york-city-set-ban-natural-gas-new-buildings-2021-12-15/.

Critically, Connecticut must begin to plan more broadly for the transition away from fossil fuels to clean energy. An increasing number of states have dockets planning for the future of gas in line with their climate goals, including Massachusetts,[16] California,[17] Oregon,[18] Washington,[19] and Nevada.[20] Connecticut must join these states in exploring options for a decarbonized buildings sector, which is necessary now to ensure that decarbonization strategies can be explored and implemented with sufficient lead time to comply with the GWSA and to ensure a just and equitable transition to decarbonization. We urge PURA to open a docket to broadly investigate the future of gas in Connecticut in light of the GWSA and the need for an equitable transition to clean energy.

With regard to gas expansion program reporting, some reporting requirements and metrics will need to continue after the expansion plan ends (*i.e.*, when no new projects are being approved). In the original PURA Decision approving the gas expansion plan, "[t]he Authority imposed a number of monthly and annual compliance filings . . . which include Order Nos. 9, 11, 14, 16, 17, 19, and 21."[21] Order No. 11 and Order No. 21 were subsequently modified.[22] As EOE notes, the LDCs proposed a streamlined reporting process for Order Nos. 11 and 21 in the Docket No. 13-06-02RE05 working group process.[23]

We do not oppose a streamlined reporting process provided that the reports still provide timely and meaningful data for PURA and interested stakeholders to review. However, we are concerned that the LDCs' proposal to reduce the number of Order No. 11 filings from six to two, and the number of Order No. 21 filings from five to two, may reduce the filings too much to the point where their usefulness is compromised. It is difficult for stakeholders to assess whether the LDCs' statements about reporting obligations are accurate (*e.g.*, how long it takes before data is available that is useful in assessing the success of projects). In addition, it is challenging for the public to locate compliance filings in PURA's online docket system. To mitigate this, we request that PURA require compliance filings to be posted on a website (*e.g.*, on the Department of Energy and Environmental Protection's website) so they are more easily accessible to the public. The webpage should be clearly labeled and include background information about the gas expansion plan and required filings.

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[16] Docket No. 20-80, Investigation by the Department of Public Utilities on its own Motion into the role of gas local distribution companies as the Commonwealth achieves its target 2050 climate goals.
[17] Docket No. R2001007, Order Instituting Rulemaking to Establish Policies, Processes, and Rules to Ensure Safe and Reliable Gas Systems in California and Perform Long-Term Gas System Planning.
[18] Docket No. UM 2178, Natural Gas Fact Finding Per EO 20-04 PUC Year One Work Plan.
[19] Docket No. 210553, Examination of energy decarbonization impacts and pathways for electric and gas utilities to meet state emissions targets.
[20] Docket No. 21-05002, Investigation Regarding Long-Term Planning For Natural Gas Utility Service In Nevada.
[21] Docket No. 13-06-02, Final Decision, 65 (Nov. 22, 2013).
[22] Docket No. 13-06-02RE01, Joint Motion for Approval of Settlement Agreement, Exhibit A - Settlement Agreement, 7-8 (Oct. 22, 2014). Docket No. 13-06-02RE01, Final Decision - Corrected, 3 (Jan. 14, 2015) (approving settlement agreement).
[23] EOE Report at 31.

We request that PURA assess the LDCs' proposed approach to streamline the reporting requirements under Order Nos. 11 and 21 and independently determine an appropriate reporting timeline, taking into consideration the need for program transparency and accountability, the reliability and usefulness of the data, and the burden of the reporting requirements relative to their value.

3. ***EOE Report, p. 31. Discuss implications regarding prudency and reasonableness standards, and associated cost recovery, stemming from the following observation, "LDCs should have adjusted their expectations for total conversions and sought a plan revision. They adjusted their annual conversion goals downward each year individually, instead of for the remainder of the whole project. This may have been to the detriment of ratepayers. The measurement of success against annual data at the expense of long-term data analysis allowed for the avoidance of emerging negative trends that would impact the SEP to date, but could have been addressed much earlier in the program."***

We agree with EOE that the gas expansion program should have been evaluated earlier with more stringent criteria, and the delay in addressing negative trends may have negatively impacted ratepayers. The gas expansion statute specifies that a rate mechanism should be established to allow the LDCs to "recover *prudent* investments made pursuant to the approved natural gas infrastructure expansion plan."[24] It is troubling that the LDCs were able to evade scrutiny by revising their annual conversion goals each year, an approach that obfuscated how much difficulty the companies were experiencing in converting customers. Had the LDCs adjusted their annual conversion goals downward for the remainder of the project rather than annually, negative trends with the program would have been apparent much sooner and it would likely have become clear that many LDC investments were not prudent, and recovery should have been disallowed.

Ratepayers rely on PURA to maintain oversight over the LDCs and ensure that any ratepayer-subsidized programs, like the gas expansion plan, are functioning properly. Reliable accountability metrics are necessary to do this. In the case of the gas expansion plan, it is clear the conversion trigger was not appropriately designed because the trigger was never met, despite longstanding signs that conversion rates were not on track. We emphasize EOE's point that "[a] fully honest reporting and discerning review of the data would have led to a reevaluation of the plan in 2014."[25] Now, eight years into the program, there is abundant data demonstrating that the conversion targets are unachievable.

These longstanding problems, potential negative impacts on ratepayers, and lack of accountability warrant further action by PURA. It would have been better if this reevaluation had taken place much earlier; however, it is not too late for PURA to rectify the mistake and ensure that any negative impacts on ratepayers are mitigated. We urge PURA to assess whether the delay in reevaluating the program and the LDCs' practice of continually revising their annual conversion goals downward negatively impacted gas ratepayers, including low- and moderate-

[24] Conn. Gen. Stat. § 16-19ww(d)(3) (emphasis added).
[25] Docket No. 13-06-02RE05, Office of Education, Outreach, and Enforcement Report on Docket 13-06-02RE05, 24 (cross-filed in Docket No. 21-08-24) [hereinafter EOE Report].

income ratepayers. If ratepayers were negatively impacted, PURA should ensure that any cost increases are mitigated (*e.g.*, by requiring the LDCs to provide credits to affected ratepayers).

4. ***EOE Report, p. 15. Comment on the following observation, "Of note, under the SEP the convergence of these prices would have to be reasonably forecast to last for more than two years for a re-evaluation under these circumstances to occur." (footnote omitted.)***

The trigger for material change in the gas/oil price spread,[26] as proposed by the LDCs and approved by PURA, suffers from three fundamental flaws, including the requirement that gas prices must be forecast to exceed oil prices for more than two years. We agree with EOE that "this standard is both inadequate in a price signal sense, and evaluates data at too glacial a pace to be effective in responding to challenges to the plan."[27]

First, the trigger requires gas prices to *exceed* oil prices. It may have been a reasonable assumption[28] at the program's inception that customer demand for conversions would be strong provided gas was cheaper than oil. However, this did not turn out to be true. Customer interest significantly decreased as gas prices increased, even though gas was still somewhat cheaper than oil. The trigger did not account for customer inertia and a preference to stick with what's familiar (heating oil), which likely contributed to customers' reluctance to convert to gas. Once it became clear that increased gas prices were dampening customer interest, the trigger should have been modified to account for this.

Second, the fact that this trigger is based on forecasts of fuel prices, rather than actual market prices, is problematic. Most prospective gas customers probably base their decision about whether to convert from oil to gas based on *current* market conditions. It is unlikely that the average customer would research oil and gas price forecasts from the U.S. Energy Information Administration to help them make this decision. Instead of basing the trigger on forecasts that are unlikely to affect the average customer's behavior, the trigger should have been based on market conditions that persist for some length of time and demonstrably affect customer behavior.

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[26] "Material change in the gas/oil price spread: The spread between oil and gas prices declines to a level such that, after factoring in the premium paid by new customers under the SE rates, 'burner tip' gas prices are more than delivered oil prices. Such forecast convergence of gas and oil prices must be reasonably forecast to be the expected future state for a period of more than two years as forecast by the U.S. Energy Information Administration." Docket No. 13-06-02, Final Decision, 57 (Nov. 22, 2013).

[27] EOE Report at 15 n.47.

[28] It is worth noting that DEEP, at the outset of the program and at a time when it was actively promoting the gas expansion plan, recommended tightening the reevaluation triggers proposed by the LDCs in order to facilitate oversight and protect customers. Rather than requiring forecasted gas prices to exceed oil prices for a period of two years, DEEP recommended setting the reevaluation trigger at a 50% decrease in the gas/oil spread. DEEP further suggested that program reevaluation be triggered by a 10%, rather than a 25%, increase in distribution rates, and a 20%, rather than 50%, shortfall in anticipated conversions. *See* Docket No. 13-06-02, Final Decision at 56; DEEP Preliminary CES Consistency Review of Natural Gas Expansion Plan - Letter to Yankee Gas Services Company, Connecticut Natural Gas Company, and The Southern Connecticut Gas Company, 9 (July 16, 2013).

Third, the timeframe included in this trigger – oil prices must be forecast to exceed gas prices for *more than two years* – was far too long. Fuel prices are notoriously volatile and can be substantially affected by numerous factors, including natural disasters, wars, pandemics, cyber-attacks, and other incidents that are difficult to forecast. If a forecast was included in the trigger, it should have been for a much shorter period, such as six months. In addition, it would have made sense for this reevaluation trigger to be met if *either* market conditions *or* forecasts indicated that gas prices were approaching oil prices.

5. ***EOE Report, p. 18. Comment on the following observation, "This is general data not accounting for timing of conversion, rebates and incentives, and/or SER payment amounts on top of the delivered cost of natural gas as presented here. However, it demonstrates that hoped-for trends in fuel prices at the inception of the plan never fully emerged, and thus do not remain a rationale supporting the continuation of the plan in its current form. The LDCs have been aware of and reported on these trends since the start of the SEP in their SER and annual § 16-19ww(e) filings. They have consistently noted that market conditions hampered and continue to negatively impact customer conversion rates and installation cost recoupment periods for customers in their SER filings, and no effective solution to this problem has emerged."***

We agree with EOE that the increased cost of gas relative to heating oil undermines a core rationale for the gas expansion plan. As discussed in our response to Question 4, above, higher gas costs substantially reduced customer demand even though gas was still somewhat cheaper than oil. This persistent lack of demand increased the LDCs' costs to convert new customers and led to their ongoing failure to meet customer conversion targets.

The most "effective solution" to this problem is to recognize that market conditions do not support continuation of the gas expansion program, and to end it as soon as possible. Pouring additional resources into converting more customers (*e.g.*, by offering higher incentives) would be an exceedingly poor use of resources given numerous other problems with the expansion program and is also unlikely to overcome the market trends that have been discouraging customers from converting to gas for years.

Notably, gas prices have increased dramatically in recent months due to constrained supplies and high gas demand both globally and within the United States.[29] As a result, less gas was put into storage for the winter, further constraining supply and increasing prices. These conditions make converting to gas an even worse proposition than in past years. Gas costs are projected to be especially high in New England this winter,[30] which raises equity concerns about the ability of low- and moderate-income households' ability to safely heat their homes and pay

[29] Matt Egan, CNN Business, *Home heating sticker shock: The cost of natural gas is up 180%* (Sept. 28, 2021), https://www.cnn.com/2021/09/28/business/natural-gas-inflation/index.html.
[30] Scott Disavino, Reuters, *Analysis: Global natgas price surge looms for United States this winter* (Oct. 4, 2021), https://www.reuters.com/business/energy/global-natgas-price-surge-looms-united-states-this-winter-2021-10-04/ ("In New England, gas for January delivery is soaring, trading this week at more than $22 at the region's Algonquin hub, which would be the highest price paid in a month since January and February of 2014.").

their energy bills. Price volatility is a persistent problem for gas, like other fossil fuels, and Connecticut should expect to see continued fluctuations in the price of this commodity.[31]

Price spikes in gas, as we are now experiencing, will be especially costly for Connecticut households and businesses because the state relies heavily on gas for both electric generation and heating buildings. As DEEP states in the recently finalized 2020 Integrated Resources Plan, New England is overly reliant on gas for electric generation; gas provides nearly half of the region's generating capacity.[32] New England's dependence on gas has "created a severe supply-demand problem that has exposed the region to serious reliability and fuel security concerns."[33] Over a third of Connecticut households also rely on gas for heating,[34] in part because of the state's sustained efforts to convert people from fuel oil through the gas expansion program.

The high cost of gas means that switching from oil to gas heating is not an economically wise decision for Connecticut residents.[35] These changed economic circumstances significantly undermine a core reason why the gas expansion program was established. Further, the high and rising costs of the expansion program, including the increased cost of converting new customers even before the significant increase in gas prices in 2021-22, demonstrate that the program was already on shaky economic ground. These considerations weigh heavily in favor of ending the gas expansion program as soon as possible.

6. ***EOE Report, p. 20. Comment on the following observation, "It is likely too late for any efforts to successfully address this issue given the remaining 'life of the plan,' and it may be reason enough for PURA to consider discontinuing the plan".***

As discussed in our response to Question 5, above, the rising cost of gas relative to heating oil is likely to persist given current market conditions. The fact that customer interest in converting to gas has been significantly dampened for years, even when gas was somewhat – but not a lot – cheaper than oil, suggests that major incentives would be necessary to overcome these market forces, resuscitate customer interest, and increase customer conversions.

We agree with EOE that it is too late for PURA to counteract the market forces that are discouraging people from converting to gas heating, especially given the short time remaining in the life of the plan. Moreover, we believe that it would be a mistake for PURA to authorize any additional incentives for further gas conversions, regardless of how much time remains.

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[31] CT DEEP, *Integrated Resources Plan*, 85 (Oct. 2021), https://portal.ct.gov/-/media/DEEP/energy/IRP/2020-IRP/2020-Connecticut-Integrated-Resources-Plan-10-7-2021.pdf ("The region's gas dependence has also exposed consumers to significant price volatility.")
[32] *Id.* at 83.
[33] *Id.*
[34] U.S. Energy Information Administration, *Connecticut Profile Overview*, https://www.eia.gov/state/?sid=CT.
[35] PURA Decision, Docket No. 21-03-01, Review of the 2020 System Expansion Reconciliation Mechanisms Filed by: Connecticut Natural Gas Corporation, The Southern Connecticut Gas Company, and Yankee Gas Services Company, 13 (Nov. 3, 2021) (Table L – Average Annual Heating Oil/Gas Price Spread ($/Gal)).

Ratepayers have already subsidized the expansion plan through millions of dollars in NFM credits, and it makes no sense to continue pouring money into the program when market forces are strongly discouraging gas conversions. These conditions are likely to persist, as they have throughout almost the entire duration of the gas expansion plan. PURA should discontinue the plan immediately to ensure that even more ratepayer funds are not thrown away in efforts to boost conversion rates in the program's waning years.[36]

7. ***EOE Report, p. 22. Comment on the following observation, "As above, the 'spirit' of this trigger was clearly met – namely, a significant problem with conversion rates. Instead, the LDCs were free to adjust their conversion projections downward year after year, without revisiting the overall plan."***

The LDCs' consistent inability to achieve, or even come close, to the original program goal of converting 280,000 new gas heating customers has been a problem since the inception of the plan. As EOE points out, it was evident that the conversion targets were unattainable within a few years after the plan was approved.[37] Now, eight years into the ten-year plan, the LDCs have only met about 32% of the original conversion goal.[38]

It is incredibly problematic that the LDCs were permitted to continually adjust their conversion goal projections downward from the original goal: "The continued adjustment of projections downward meant the actual conversion data did not show the whole picture each year, as it allowed the LDCs to continually report completion rates above 80%."[39] This practice allowed the LDCs to paint an inaccurately rosy view of their progress, making it appear that the companies were far more successful at converting gas customers than they actually have been. This lack of transparency and accountability made it harder for stakeholders to monitor the plan and accurately determine whether the LDCs were on track to meet their conversion goals. We agree with EOE that the conversion trigger should have accounted for the LDCs' progress in meeting the ten-year conversion goal, in addition to the companies' annual projections.

8. ***EOE Report, p. 29. Comment on the following observation, "As discussed above, in the strictest sense the program supports state policy regarding energy efficiency and carbon reduction; however, EOE is uncertain if the program truly offers the benefits and objectives as initially envisioned."***

We emphasize EOE's suggestion that the gas expansion program does not truly offer the climate and clean energy benefits that were initially envisioned. Moreover, the program does not support Connecticut's climate and energy policies even in the "strictest sense." Expanding gas infrastructure increases greenhouse gas emissions and is directly at odds with the emissions reduction targets in the GWSA, which requires the state to reduce greenhouse gas emissions by

[36] Further, attempting to counteract market forces that disfavor gas would be inconsistent with the state's climate goals and focus on decarbonizing the buildings sector by phasing out fossil fuel heating in favor of electric heat pumps.
[37] "[T]he LDCs, by the time of their 2016 SER filings, should have accepted this was a long-term issue and sought to amend the plan even though the trigger criterion was not met." EOE Report at 22.
[38] *Id.* at 20.
[39] *Id.* at 23.

10 percent below 1990 levels by 2020, 45 percent below 2001 levels by 2030, and 80 percent below 2001 levels by 2050.[40] Downsizing the gas expansion program would help minimize additional emissions, but *any* new projects approved under the program contribute to more emissions and undermine the state's climate goals. Ending gas expansion is necessary to ensure that Connecticut does not thwart its own climate goals by locking in decades of emissions from new gas infrastructure.

Any conclusion that the expansion program supports state climate and energy policy rests on an implicit assumption that the only options for heating buildings are burning oil or burning gas. In this blinkered view, gas appears to be the "cleaner" option because burning gas generates fewer carbon dioxide emissions than burning oil.[41] However, this fails to account for emissions from methane leakage, which offset the purported climate benefits of gas.[42] Further, this assumption leaves out other potential sources of heating – notably electric heat pumps, which are highly efficient,[43] result in fewer emissions than gas heating,[44] and are widely recognized as critical to decarbonizing the building sector.[45]

To determine whether the gas expansion plan supports Connecticut's climate goals, the appropriate question is: How do the emissions associated with gas heating, including the carbon dioxide emissions generated by burning gas and methane emissions from gas leakage, compare to the emissions from all other heating sources, including heating oil and electric heat pumps? When the question is thus framed, it is evident that gas heating is not effective at reducing greenhouse gas emissions compared to electric heat pumps. Notably, the emissions associated with using electricity to run an electric heat pump – which are already lower than emissions from gas heating – are further decreasing as the electric sector is decarbonized. Since gas heating produces more emissions than the cleanest alternative, it is inaccurate to say that gas expansion supports Connecticut's climate and energy policies even in "the strictest sense." It does not support them at all.

When the gas expansion plan was statutorily authorized in 2013, many policymakers thought that switching from heating oil to gas would be beneficial from a climate perspective

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[40] Conn. Gen. Stat. § 22a-200a(a).
[41] U.S. Energy Information Administration, *How much carbon dioxide is produced when different fuels are burned?*, https://www.eia.gov/tools/faqs/faq.php?id=73&t=11.
[42] *See, e.g.*, Nicholas Kusnetz, *Is Natural Gas Really Helping the U.S. Cut Emissions?* (Jan. 30, 2020), https://insideclimatenews.org/news/30012020/natural-gas-methane-carbon-emissions/.
[43] U.S. Department of Energy, *Heat Pump Systems*, https://www.energy.gov/energysaver/heat-pump-systems.
[44] Richard Faesy, Energy Efficiency Board Technical Consultant, *Heat Pumps in Northeast Energy Efficiency Programs for the Connecticut Department of Energy and Environmental Protection*, 37 (Nov. 18, 2021), https://portal.ct.gov/-/media/DEEP/energy/ConserLoadMgmt/20211118-CLM-Technical-Meeting.pdf (showing that heat pumps produce significantly fewer greenhouse gas emissions than gas heating).
[45] *See, e.g.*, Jessica Leung, Center for Climate and Energy Solutions, *Decarbonizing U.S. Buildings*, 5 (2018), https://www.c2es.org/wp-content/uploads/2018/06/innovation-buildings-background-brief-07-18.pdf.

because burning gas generates fewer carbon emissions than burning coal or oil.[46] But gas is comprised mostly of methane, an extremely potent greenhouse gas that contributes significantly to climate change.[47] Methane is 84 times more potent than carbon dioxide in the first 20 years after its release,[48] and is still 28-36 times as potent after 100 years.[49] When methane leakage is fully accounted for, the purported climate benefits of gas largely disappear.[50] Moreover, these leakage rates are underestimated in existing inventories,[51] which suggests that the climate impacts of gas are even greater than currently estimated.

There is growing consensus that all fossil fuels, including gas, must be rapidly phased out to meet scientifically supported greenhouse gas emissions reduction goals and avert catastrophic global warming.[52] But this shift is not happening fast enough, as false claims about gas being a "clean" fuel persist. Contrary to the gas industry's misleading narrative of gas as a "clean" fuel, gas is not a more climate friendly alternative to other fossil fuels. Indeed, the recently released UN Global Methane Assessment concludes that methane is "responsible for about 30 per cent of [global] warming since pre-industrial times" and that "[u]rgent steps must be taken to reduce methane emissions this decade."[53] Continuing to build new gas infrastructure is fundamentally at odds with climate action because it locks in decades of additional gas use – and the associated greenhouse gas emissions that contribute to climate change.

Connecticut must take swift action to ensure it is on track to meet the binding targets of the GWSA, particularly in the buildings sector. DEEP recently released the 2018 Greenhouse

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[46] U.S. Energy Information Administration, *How much carbon dioxide is produced when different fuels are burned?*, https://www.eia.gov/tools/faqs/faq.php?id=73&t=11.

[47] U.N. Environment Programme, *Global Assessment: Urgent steps must be taken to reduce methane emissions this decade* (May 6, 2021), https://www.unep.org/news-and-stories/press-release/global-assessment-urgent-steps-must-be-taken-reduce-methane ("Rick Duke, Senior Advisor to the U.S. Special Presidential Envoy on Climate Change, said: 'Methane accounts for nearly one-fifth of global greenhouse gas emissions and . . . it is by far the top priority short-lived climate pollutant that we need to tackle to keep 1.5˚C [of warming] within reach.'").

[48] U.N. Economic Commission for Europe, *Methane Management: The Challenge*, https://unece.org/challenge.

[49] U.S. EPA, *Greenhouse Gas Emissions: Understanding Global Warming Potentials*, https://www.epa.gov/ghgemissions/understanding-global-warming-potentials.

[50] *See, e.g.*, Nicholas Kusnetz, *Is Natural Gas Really Helping the U.S. Cut Emissions?* (Jan. 30, 2020), https://insideclimatenews.org/news/30012020/natural-gas-methane-carbon-emissions/.

[51] Maryann R. Sargent, *Majority of US Urban Natural Gas Emissions Unaccounted for in Inventories*, https://www.pnas.org/content/118/44/e2105804118 (measured methane leakage around Boston and estimated total supply chain losses of 3.3 to 4.7% for natural gas consumed in urban areas, which significantly increases the climate impacts of natural gas compared to existing U.S. EPA estimates); Ramon A. Alvarez, *Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain*, Science, Vol 361, Issue 6398 (July 13, 2018) (finding that supply chain emissions were approximately 60% higher than the U.S. EPA inventory estimate).

[52] *See* Nina Chestney, Reuters, *End new oil, gas and coal funding to reach net zero, says IEA* (May 18, 2021), https://www.reuters.com/business/environment/radical-change-needed-reach-net-zero-emissions-iea-2021-05-18/.

[53] U.N. Environment Programme, *Global Assessment: Urgent steps must be taken to reduce methane emissions this decade* (May 6, 2021), https://www.unep.org/news-and-stories/press-release/global-assessment-urgent-steps-must-be-taken-reduce-methane.

Gas Inventory, which found that the state is not on track to meet these targets.[54] The report found that 2018 emissions *increased* and were higher than the 2020 statutory goal, despite having temporarily dipped below that level in 2017.[55] Notably, 2018 emissions were higher due primarily to "an increase in residential and commercial emissions from combustion of fossil fuel for heating. This included . . . a 9.8 percent increase in emissions [relative to 2017] from use of natural gas. Commercial emissions increased 10.8 percent for use of natural gas."[56]

To reverse this alarming trend of increasing emissions, DEEP notes that "electrification of home heating, decarbonization of thermal technologies, and improved weatherization . . . will be critical to significantly reduce GHG emissions in [the residential building sector]."[57] Rapidly decarbonizing commercial and industrial buildings is also urgent, because emissions from these sectors "have risen and together account for a larger fraction of the state's emissions than the residential sector, highlighting the need for deep decarbonization efforts in these sectors."[58] As DEEP notes, the Governor's Council on Climate Change has repeatedly recommended "sharply increasing deployment of renewable thermal technologies, especially by moving thermal loads from fossil fuels to highly efficient heat pumps."[59] DEEP's commentary on the 2018 Greenhouse Gas Inventory reflects the agency's recognition that electrification is critical to reduce emissions from the buildings sector.

DEEP's emphasis on building electrification represents a significant shift from the agency's former support of gas conversions in the 2013 Comprehensive Energy Strategy (CES). As the EOE Report notes, the 2018 CES put a "decreased emphasis on the promotion of gas."[60] Indeed, the 2018 CES recognized that "decarbonization of thermal systems is necessary" to meet the state's climate goals under the GWSA.[61] Governor Lamont recently issued a new Executive Order on climate that recognizes that high gas prices are negatively impacting Connecticut consumers, that greenhouse gas emissions have increased from the buildings sector, and that the gas expansion plan should be reevaluated in light of these considerations.[62] Accordingly, DEEP will reevaluate the gas expansion plan and the future of gas in the forthcoming 2022 CES,[63] which "will concentrate on policy mechanisms needed to meet the state's GHG emissions-

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[54] CT DEEP, *2018 Connecticut Greenhouse Gas Emissions Inventory*, 2, https://portal.ct.gov/-/media/DEEP/climatechange/GHG_Emissions_Inventory_2018.pdf

[55] *Id.* at 3 ("In 2018, Connecticut emitted 42.2 million metric tons of carbon dioxide equivalent (MMTCO2e). . . . It is a 2.7 percent increase from levels reported in the 2017 inventory; and it exceeds the 2020 statutory goal by 2.9 percent (1.2 MMTCO2e).").

[56] *Id.* at 6.

[57] *Id.* at 7.

[58] *Id.*

[59] *Id.*

[60] EOE Report at 12.

[61] 2018 Comprehensive Energy Strategy, 25 (Feb. 8, 2018), https://portal.ct.gov/-/media/DEEP/energy/CES/2018ComprehensiveEnergyStrategypdf.pdf.

[62] Connecticut Gov. Lamont, Executive Order 21-3, 2-3 (Dec. 16, 2021), https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-21-3.pdf.

[63] DEEP, Notice of Proceeding and Scoping Meeting, 3 (Jan. 6, 2022), https://portal.ct.gov/-/media/DEEP/energy/CES/2022CESnoticeofproceedingpdf.pdf.

reduction targets [under the GWSA]."[64] Continuing to expand gas through the gas expansion plan would be inconsistent with state climate policy because it would further increase emissions from buildings, thwarting the state's attempts to rapidly decarbonize the buildings sector and impeding its ability to meet the binding climate targets established in the GWSA.

Conclusion

Thank you for the opportunity to comment. As discussed throughout these comments, we respectfully urge PURA to end the gas expansion plan as soon as possible. In addition, PURA should assess whether the inadequate reevaluation triggers and the delay in reevaluating the program negatively impacted ratepayers, and if so, require these impacts to be mitigated.

Respectfully submitted,

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[64] *Id.* at 2.