

October 7, 2022

Sent via email to: DEEP.EnergyBureau@ct.gov

Connecticut Department of Energy and Environmental Protection
Bureau of Energy and Technology Policy
10 Franklin Square
New Britain, CT 06051

**Re: Environmental Advocates' Written Comments for 2022 CES Technical Session 3:
Building Thermal Decarbonization — Support Strategies**

Dear Bureau of Energy and Technology Policy,

Thank you for the opportunity to submit comments for the 2022 Comprehensive Energy Strategy (CES) Technical Session 3. Conservation Law Foundation, Save the Sound, Sierra Club, Acadia Center, the Nature Conservancy in Connecticut, People's Action for Clean Energy, and Eastern Connecticut Green Action are public interest organizations that are working to align Connecticut's energy policies with the state's statutory climate commitments and decarbonize the electric sector, transportation sector, and buildings sector, which are the three major sources of Connecticut's greenhouse gas (GHG) emissions. We appreciate the opportunity to provide these joint comments and look forward to engaging further in development of the 2022 CES.

1. Would a geographic inventory of thermal resources and demand, modeled in some fashion on Heat Roadmap Europe, be helpful in Connecticut? Why or why not?

During the presentation on Heat Roadmap Europe, Jeff Howard mentioned that DEEP is unaware of any similar analysis that has been done in the United States. We encourage DEEP to contact other states in the region (the New England states, New York, and New Jersey) to find out if any of them are considering such an analysis. If other states are interested, there could be opportunities for a regional approach similar to what the EU has done. A small-scale analysis focused solely on Connecticut would likely be less useful and less informative than a regional analysis. DEEP should also identify potential sources of funding and potential partners (*e.g.* universities, the Green Bank). This information is necessary for stakeholders to have a better understanding of the potential for a heat roadmap analysis in Connecticut.

If DEEP finds that there is limited regional interest or funding for this approach, then the state should not pursue the option at this time. Further developments in Europe should be tracked and DEEP should plan to reevaluate a heat roadmap analysis in the next iteration of the CES (or sooner, if circumstances warrant). While DEEP should track developments like Heat Roadmap Europe that could help inform Connecticut's decarbonization efforts, it is critical for the state to allocate its resources efficiently, focusing on the most well established and proven building sector decarbonization strategies such as heat pumps.

2. What major changes in building codes, if any, should Connecticut undertake to facilitate building decarbonization? Why?

Connecticut must work toward implementing a statewide net zero building code that requires all-electric and non-combustion appliances. An important first step in pursuing this policy is the introduction of a stretch code that allows cities and towns to opt in to these requirements.

Many cities in other states have already implemented building codes that require all-electric new construction. Recently, New York City mandated that buildings of all sizes must be constructed fully electric by 2027.¹ Washington, D.C. has similarly moved to ensure that by 2026 all new buildings and substantial renovations will be net-zero construction.² In addition, Massachusetts' most recent climate law will allow ten municipalities to prohibit the installation of new fossil fuel infrastructure in new construction and major renovations.³ Over fifty California municipalities have prohibited fossil fuel heating in new construction,⁴ while Quebec has passed a regulation that ends the use of fuel oil for residential heating.⁵

Installing new oil and gas infrastructure in buildings will only prolong Connecticut's dependence on fossil fuels and will hinder the state's efforts to achieve its Global Warming Solutions Act (GWSA) decarbonization mandates.⁶ Any building built today with fossil fuel heating will need to be retrofitted at greater cost and complexity before the end of its useful life, which wastes money, burdens energy infrastructure, and impedes the state's ability to meet its emissions reduction goals. It is therefore critical that Connecticut update its building code to be as effective as possible at reducing dependence on fossil fuels and allowing towns to opt in to a net zero, all-electric building code.

¹ NYC Office of the Mayor, *Mayor de Blasio Signs Landmark Bill to Ban Combustion of Fossil Fuels in New Buildings* (Dec. 22, 2021), <https://www1.nyc.gov/office-of-the-mayor/news/852-21/mayor-de-blasio-signs-landmark-bill-ban-combustion-fossil-fuels-new-buildings>.

² B24-0420 - Clean Energy DC Building Code Amendment Act of 2021, <https://lims.dccouncil.gov/Legislation/B24-0420>; <https://www.npr.org/local/305/2022/07/14/1111541753/d-c-moves-to-ban-natural-gas-in-most-new-buildings-aiming-for-carbon-neutrality>.

³ An Act Driving Clean Energy and Offshore Wind, <https://malegislature.gov/Laws/SessionLaws/Acts/2022/Chapter179>; Clean Technica, *Massachusetts Legislature Legalizes Gas Bans* (July 26, 2022), <https://cleantechnica.com/2022/07/26/massachusetts-legislature-legalizes-gas-bans/>.

⁴ See, e.g., Sammy Roth, Los Angeles Times, *L.A. is banning most gas appliances in new homes* (May 27, 2022), <https://www.latimes.com/business/story/2022-05-27/get-ready-for-electric-stoves-los-angeles-bans-natural-gas-in-most-new-homes> ("More than 50 California cities and counties have adopted similar rules banning or discouraging gas hookups in new homes and other buildings.").

⁵ Quebec Ministry of the Environment and the Fight Against Climate Change, *Quebec adopts a regulation to eliminate the use of fuel oil for residential heating* (Nov. 17, 2021), <https://www.environnement.gouv.qc.ca/Infuseur/communiqu.asp?no=4687>.

⁶ Conn. Gen. Stat. § 22a-200a. Connecticut's Global Warming Solutions Act requires the state to reduce greenhouse gas emissions 10% below 1990 levels by 2020, 45% below 2001 levels by 2030, and 80% below 2001 levels by 2050.

3. What role should district heating/cooling play in decarbonizing Connecticut's building stock? Which forms of district heating/cooling are most promising for Connecticut? Why?

District heating/cooling should be deployed as part of Connecticut's building sector decarbonization strategy. Networked geothermal projects are currently underway in neighboring states such as Massachusetts (the Eversource project in Framingham⁷ and four planned projects for National Grid⁸) and New York.⁹ Avangrid and Eversource are interested in moving forward with similar projects in Connecticut, which can build on lessons learned from projects in other states in the region and elsewhere in the country. Research, mapping, and community outreach will be necessary to identify potentially suitable locations.

Comments on CES Technical Session 3 submitted by Peter Millman of People's Action for Clean Energy (PACE) on behalf of the Beyond Gas CT coalition provide details on the potential for networked geothermal to play a role in Connecticut's building sector decarbonization strategy and the benefits of this approach.

4. For technologies other than heat pumps (which were addressed above for Session 2), what additional measures are needed in Connecticut to address workforce development challenges for building decarbonization? Why?

As Eversource noted in their presentation on networked geothermal, this strategy can utilize the existing workforce at gas distribution companies because these workers already have expertise that is relevant to networked geothermal (e.g. drilling, laying underground pipes, etc.). This set of skills would likely also translate well to wastewater thermal projects. Developers should identify existing gaps and work with the state to develop training programs that are needed to prepare the workforce for implementing these decarbonization strategies.

5. What additional measures are needed in Connecticut to address educational and promotional challenges for building decarbonization? Why?

As discussed in response to Question #3 for Technical Session 2, many if not most Connecticut residents are uninformed or misinformed about heat pumps and unaware of current incentives. Active and sustained public outreach, including targeted outreach to certain priority populations, is critical to educate residents about heat pumps and accelerate adoption of this technology. State involvement is needed to ensure consistent and accurate messaging and to coordinate participating entities, including state agencies and advisory bodies, municipalities, regional councils of government, housing authorities, businesses, nonprofits, and community

⁷ Eversource, *Geothermal Pilot Program*, <https://www.eversource.com/content/ema-c/business/save-money-energy/clean-energy-options/geothermal-pilot-program>.

⁸ National Grid, *National Grid's Massachusetts Geothermal Program Implementation Plan Receives Approval* (Sept. 26, 2022), <https://www.nationalgridus.com/News/2022/09/National-Grid-8217-s-Massachusetts-Geothermal-Program-Implementation-Plan-Receives-Approval/>

⁹ NYSEDA, *Community Heat Pump Systems Projects*, <https://www.nyserda.ny.gov/All-Programs/Community-Heat-Pump-Systems/Winners>

groups. The 2022 CES should include a robust public outreach strategy, including an implementation timeframe and accountability metrics.

Accurate and up-to-date online resources are fundamental to ensure that interested residents can quickly and easily locate information about heat pumps and available incentives. However, this is only a starting point. If most residents are unaware of these resources, which currently seems to be true, they will have limited impact.

The Energize CT website is probably the most well known resource on heat pumps in Connecticut. This website includes information about how heat pumps work and state-level incentives.¹⁰ Eversource and Avangrid also mention heat pumps on their websites and note that incentives are available for qualifying customers.¹¹ These online resources should be updated to include information about *federal* incentives, in addition to the state incentives. Visitors to the websites may not be aware of federal support for heat pumps.

Active and sustained public outreach is critical to educate Connecticut residents about heat pumps, and a robust outreach plan and implementation timeframe should be developed in the 2022 CES. DEEP should hire a new staff person or a qualified consultant to oversee public outreach and ensure that the state stays on track. Because the hiring process can be lengthy and additional sources of funding may be needed to fund this consultant or new hire, DEEP should assign this responsibility to an existing staff person in the interim so implementation can move forward as quickly as possible.

The details of the outreach plan should be developed with public input in the 2022 CES. Best practices in public outreach should be utilized, such as providing information in multiple languages, utilizing existing social networks and channels of communication, partnering with community groups and other trusted messengers, meeting communities where they are (*e.g.* in community centers, churches, schools, libraries, shops, festivals, etc.), providing information in easily understood “plain language”, using various methods of communication to reach a wider range of people (*e.g.* QR codes, links to websites, social media, print media, op-eds, radio or online ads, billboards, flyers, utility bill inserts), and using data to identify the most effective ways to reach the public, especially high-priority target populations.

Outreach should build on related efforts to strengthen public engagement on energy, climate, and environmental issues, such as the Equitable Energy Efficiency (E3) proceeding, the Connecticut Equity and Environmental Justice Advisory Council (CEEJAC), and the Governor’s Council on Climate Change. Community partners and organizations (*e.g.* PACE, Operation Fuel) can play a key role in reaching the public, including low-income households and environmental justice populations, and should be involved in the outreach process. A source of funding should be identified to compensate community partners that assist in outreach efforts.

¹⁰ Energize CT, *Air Source Heat Pumps*, <https://www.energizect.com/your-home/solutions-list/air-source-heat-pumps>.

¹¹ Avangrid, *Heating and Cooling System Rebates*, https://www.uinet.com/smartenergy/rebatesandprograms/high_efficiency_furnace_gas_boiler; Eversource, *Heating, Cooling and Water Heating*, <https://www.eversource.com/content/ct-c/residential/save-money-energy/efficient-products/heating-cooling>.

Data should be used to target outreach to high priority households and businesses. The Green Bank and PACE have substantial data, discussed in Technical Session 2, that should be utilized for this purpose. The utility companies (both gas and electric) are another important source of data that should be collected and used for outreach. This data should be publicly available (with appropriate privacy protections for customer data) to the extent possible.

In the 2022 CES, DEEP should identify high-priority outreach categories in both the residential and C&I sectors. These could include, for example, people who are eligible for the greatest incentives and those who would benefit the most economically by converting to a heat pump (such as current heating oil and propane customers).

6. What are the biggest challenges to building decarbonization affordability? What policies and/or programs have been successful in other jurisdictions in addressing affordability challenges?

The upfront costs of building decarbonization measures, such as weatherization, heat pumps, heat pump water heaters and dryers, electric or induction stoves, EV chargers, wiring upgrades, solar photovoltaics, and battery storage remain a challenge. State and federal incentives, including rebates and tax credits, can mitigate these upfront costs, but additional measures are needed to bring these solutions within reach for more families and businesses.

Point of sale rebates are more beneficial than tax credits for many people, particularly those with lower or moderate incomes, because savings are realized immediately and regardless of whether the individual has a tax burden. Tax credits can lower one's tax liability, which can be attractive for those with higher incomes who usually owe more taxes and can afford to wait for the savings. For people who do not owe any taxes or whose tax liability is smaller than the tax credit, the credit results in much less (or no) financial benefit.

Low- or zero-interest loans can also make building sector decarbonization measures more affordable. In Connecticut, the Green Bank's expertise in financing clean energy solutions should be utilized to develop loans specific to building sector decarbonization and related services, such as weatherization and wiring upgrades. Loans should be available for a range of decarbonization measures because these measures are complementary, but some prioritization may be necessary. For example, it may make sense to provide the greatest incentives for upgrades that result in the greatest cost savings and emissions reductions, or for fundamental upgrades like weatherization and wiring upgrades that support multiple decarbonization measures.

In addition to making building sector decarbonization measures more affordable, it is imperative that Connecticut (1) **stop subsidizing or otherwise incentivizing fossil fuel heating** and (2) **mitigate the emissions that have resulted from the state's gas policies**. The legacy of Connecticut's pro-gas policies is evident in the expanded gas system and the increased number of households that now rely on gas heating. Although the gas expansion program never came

close to 280,000 gas conversions, the original target,¹² it did shift a greater percentage of Connecticut residents to gas heating: currently, 36% of Connecticut households use gas.¹³

The state's former policy of gas expansion was in effect for years until PURA discontinued the gas expansion plan in April 2022, finding that it was inconsistent with Connecticut's climate and energy goals.¹⁴ This is a step in the right direction, as is the recent decision to phase out incentives for gas appliances in the Conservation and Load Management Plan. However, simply ending state subsidies and incentives for gas does not undo the effects of these pro-gas policies. **A comprehensive plan is needed to dismantle the state's reliance on gas heating and reduce building sector emissions.** Governor Lamont recognized this need in Executive Order 21-3, in which he directed DEEP to align the 2022 CES with the GWSA and specifically to reconsider the state's gas expansion policy.¹⁵ (The Executive Order predated the PURA decision in Docket No. 21-08-24, which ended the gas expansion plan.)

Critically, Connecticut must plan for the transition away from fossil fuel heating to full-scale electrification of the buildings sector. An increasing number of states have dockets planning for the future of gas in line with state climate goals, including Massachusetts,¹⁶ Rhode Island,¹⁷ California,¹⁸ Oregon,¹⁹ Washington,²⁰ and Nevada.²¹ Connecticut must join these states in exploring options to transition away from gas heating, which is necessary now to ensure that decarbonization strategies can be identified and implemented with sufficient lead time to comply with the GWSA and to ensure a just and equitable transition to decarbonization.

Notably, there is broad support for a future of gas docket. The Office of Consumer Counsel, PURA's Office of Education, Outreach, and Enforcement, Yankee Gas (Eversource), and environmental advocates have all recommended that PURA open a docket on the future of gas.²² PURA has not yet initiated such a docket, finding "that it may be more appropriate for PURA to evaluate the findings from [the 2022 CES]" first.²³ However, PURA indicated that it could "always act on its own motion or on the motion of a third party to open a PURA docket"

¹² PURA Docket No. 21-08-24, Final Decision, 14 (Apr. 27, 2022) (noting that the gas companies had reached 32% of the original conversion goal eight years into the program).

¹³ U.S. EIA, *Connecticut State Energy Profile*, <https://www.eia.gov/state/print.php?sid=CT>.

¹⁴ PURA Docket No. 21-08-24, Final Decision, 15-16 (Apr. 27, 2022).

¹⁵ Gov. Lamont, E.O. 21-3, 2-4 (Dec. 2021), <https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-21-3.pdf>.

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. 22-01-NG, Investigation Into the Future of the Regulated Gas Distribution Business in Rhode Island in Light of the Act on Climate.

¹⁸ 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.

¹⁹ Docket No. UM 2178, Natural Gas Fact Finding Per EO 20-04 PUC Year One Work Plan.

²⁰ Docket No. 210553, Examination of energy decarbonization impacts and pathways for electric and gas utilities to meet state emissions targets.

²¹ Docket No. 21-05002, Investigation Regarding Long-Term Planning For Natural Gas Utility Service In Nevada.

²² PURA Docket No. 21-08-24, Final Decision, 21 (Apr. 27, 2022).

²³ *Id.*

on the future of gas if “circumstances arise that indicate PURA should open a docket prior to finalization of the most recent CES.”²⁴

The 2022 CES should direct PURA to open a future of gas docket²⁵ and should provide guidance on potential strategies to be considered in that docket. A clear statement from DEEP in the CES that Connecticut no longer supports gas expansion and instead recognizes the need to rapidly transition away from gas heating in line with the GWSA would provide PURA with the direction it has been waiting for to commence with a future of gas proceeding. If the CES does not provide such direction, then PURA should move forward on its own initiative.

Respectfully submitted,

Shannon Laun
Vice President
Director, CLF Connecticut
Conservation Law Foundation
Phone: (475) 261-9538
Email: slaun@clf.org

Amy Boyd
Vice President, Climate and Clean Energy
Policy
Acadia Center
Phone: 617-742-0054 x102
Email: aboyd@acadiacenter.org

Charles J. Rothenberger
Climate & Energy Attorney
Save the Sound
900 Chapel Street, Suite 2202
New Haven, CT 06510
Phone: (203) 787-0646, x122
Email: crothenberger@savethesound.org

Nathan Frohling
Director of External Affairs
The Nature Conservancy in Connecticut
55 High Street, Floor 3
New Haven, CT 06510
Phone: 203-980-5149
Email: nfrohling@tnc.org

Sarah Krame
Associate Attorney
Sierra Club Environmental Law Program
50 F St. NW, 8th Floor
Washington, DC 20001
Phone: (202) 548-4597
Email: Sarah.krame@sierraclub.org

Mark Scully
President
People’s Action for Clean Energy
29 Notch Road
West Simsbury, CT 06092-2710
Phone: (917) 843-7214
Email: mwscully29@gmail.com

Peter Millman
Secretary
Eastern CT Green Action
Email: peter.millman7@gmail.com

²⁴ *Id.*

²⁵ PURA is the appropriate venue for a future of gas proceeding. Other states that are considering the future of gas have proceedings before their respective public utility commissions, and Connecticut should also take this approach. PURA has the regulatory authority, staffing, and technical expertise needed for a future of gas proceeding. The 2022 CES will provide policy guidance to PURA, as provided under Conn. Gen. Stat. § 16-2(m), and DEEP should be an active participant in a future of gas docket, along with the Office of Consumer Counsel.