

THE PROBLEM:

Inefficient homes and outdated heating and cooling equipment make for high home energy burdens and significant air pollution impacts in Connecticut. There are solutions to lower costs and reduce harmful air pollution.

BENEFITS OF INCREASING ENERGY EFFICIENCY & INNOVATIVE CLEAN ENERGY SOLUTIONS

- **Lower energy costs:** 43% of a typical US home utility bill goes to heating and cooling. Energy efficiency and innovative clean energy solutions can help lower energy costs. By combining proper equipment maintenance and upgrades with appropriate insulation, air sealing, and thermostat settings, energy use for heating and cooling can be cut from 20% to 50%.
- **Greater equity:** Reducing costs is especially important for low-income residents and renters. Low-income households in the United States spend up to five times more on energy than the average household does; for some of these families and individuals, energy costs can account for as much as 20 percent of their total monthly spending. Contributing factors are inefficient, drafty rental housing and inefficient, old heating and cooling equipment.
- **Reduced health impacts:** Burning gas, oil, and propane in furnaces and water heaters generates a staggering 23% of Connecticut's nitrogen oxide (NOx) pollution, more than eight times as much as the state's power plants. Exposure to this pollution is associated with premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room

visits for asthma, and intensified allergic responses, especially in vulnerable populations.

- **Reduced climate impacts:** Gas, oil and propane furnaces and water heaters are also responsible for 30% of Connecticut's greenhouse gas emissions.

CURRENT POLICY STATUS

- Surrounding states are showing that additional support and measures can provide residents with more solutions to inefficient housing and outdated heating and cooling systems.

LEGISLATIVE SOLUTIONS

- **Support and increase access to energy efficiency:** Energy efficiency is the most cost-effective way to save consumers money and reduce energy demand. The legislature can ensure an equitable and stable energy efficiency program by protecting the Public Benefit Charge, increasing funding for the energy efficiency program, and requiring a minimum level of funding to be set aside for low-income households and renters.
- **Heat pumps for cooling:** Heat pumps serve two purposes - heating and cooling. With the increased need for cooling in Connecticut, heat pumps will deliver both pollution-free heating and highly efficient cooling.

Legislation is needed to protect vulnerable populations - nursing homes, seniors, community cooling centers, child care centers - from the dangers of the growing heat problem. A heat protection bill should create a program to ensure protection from heat and provide support for heat pumps for these vulnerable populations.

- **Net-zero, fossil-free new buildings:** Legislators can ensure that all new buildings - state buildings, schools, residential and commercial buildings - save money on utility bills by being built to a net-zero, all-electric standard. This standard would ensure that building owners, operators and occupants avoid costly utility bills now and into the future. Communities facing high energy burdens benefit significantly from net-zero buildings, enjoying both cost savings and better health outcomes.
- **Heat pumps program for electric resistance heating replacement:** Electric resistance heating is inefficient and expensive. Currently about 16%, or 192,000 of Connecticut's 1.2 million households use electric resistance heating. Replacing these systems with heat pumps will reduce demand on the grid and save money for customers. It is estimated these households could save $\frac{2}{3}$ on their electricity bills by replacing electric resistance with heat pumps. Legislation is needed to accelerate replacement of these systems
- **Heat pump hot water heaters:** Heating water for residential use is responsible for 18% of home energy consumption and 15% of greenhouse gas emissions. According to EnergyStar, heat pump hot water heaters are 3 to 4 times more efficient than standard electric and gas models and can save a family of four up to \$550 per year compared to a standard electric water heater while reducing emissions. Heat pump hot water heaters can benefit the grid by participating in demand response. Finally, heat pump hot water heaters dehumidify, eliminating the need for expenses associated with operating a dehumidifier. Legislation is needed to: establish a heat pump hot water heater program that will promote a more rapid adoption of heat pump water heaters to replace all legacy hot water heaters in Connecticut within 15 years.
- Program should **enhance the zero percent micro-loan program** for low to moderate income households, add contractor installation incentives, and create a demand response program.
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- **Zero percent financing for home electrification solutions:** With the 2024 expiration of Connecticut's heat loan program, legislation is needed to establish a new zero-interest financing program to enable more families to afford the upfront costs of home electrification. The program should increase loan amounts, and payback periods, and streamline eligibility. Recent research shows that access to low-cost financing significantly increases people's ability to upgrade their home heating and cooling systems by installing efficient and cost-effective heat pumps.
- **Thermal Energy Networks:** Thermal Energy Networks (TENs) are the most efficient systems available to deliver climate-friendly heating and cooling at a neighborhood and community scale. Some TENs are already being developed in Connecticut and neighboring states, but legislation would lay the groundwork for more TENs to be implemented in communities around the state.

MORE INFORMATION

Steve Lewis, Sierra Club Connecticut
swlewis276@gmail.com

Shannon Laun, Conservation Law Foundation
slaun@clf.org