

Residential Energy Programs

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Issue

Describe energy programs in Connecticut for residential utility customers, including programs established in state law or by state agencies but excluding tax incentives.

This report updates, in part, OLR Report [2015-R-0107](#).

Summary

Energy programs for residential customers include programs that address energy assistance, energy efficiency, energy storage, electric vehicle charging, and renewable energy. Some programs may fit in more than one category. [Energizect.com](#) provides further information on many of these programs.

Energy assistance programs aim to help customers with low incomes pay for energy (e.g., heat or electricity). In Connecticut, these programs are funded primarily through federal block grants, including the Low Income Home Energy Assistance Program (LIHEAP) and the Weatherization Assistance Program (WAP). State law additionally requires utilities to administer a Matching Payment Program to help customers pay down their arrearages.

Energy efficiency programs aim to help customers use less energy to meet their needs. Funded through a charge on utility ratepayer bills, conservation and load management (C&LM) programs are described in the state's C&LM plan, as approved by the Department of Energy and Environmental Protection (DEEP). These include home energy audits and [financial incentives](#) for energy efficient products.

Energy storage generally refers to systems that receive energy and store it for later use (e.g., batteries). A recent law authorized the Public Utilities Regulatory Authority (PURA) to establish an energy storage program for utility customers, including residential customers ([PA 21-53](#)). PURA established the Energy Storage Solutions Program in 2021 to provide up front and performance-based incentives to residential customers.

Similarly, the Connecticut Electric Vehicle Charging Program, administered by the electric distribution companies (EDCs, i.e., Eversource and United Illuminating (UI)), provides up front and ongoing incentives for customers to purchase and install electric vehicle chargers at their homes and participate in managed charging.

Renewable energy programs generally encourage customers to install and use energy sources designated as “renewable” under state law (e.g., solar, wind, and fuel cells). The Residential Renewable Energy Solutions Program (RRES) allows residential customers to enter into contracts to sell energy and renewable energy credits (RECs) from renewable energy facilities installed at the customer’s home (e.g., solar panels) to Eversource or UI at a fixed 20-year price. The Green Bank offers several financing programs for homeowners and multifamily building owners.

Energy Assistance

Federal Low Income Home Energy Assistance Program (LIHEAP)

The Department of Social Services administers the [Connecticut Energy Assistance Program \(CEAP\)](#) in partnership with community action agencies and with funding from the federal LIHEAP block grant ([CGS § 16a-41a](#), as amended by [PA 23-204](#), § 295). Among other things, the program provides a basic benefit, a rental assistance benefit for households that do not make direct-to-vendor payments for their primary source of heat, and a crisis assistance benefit for households that use a deliverable fuel for heat and have exhausted their basic benefit, as shown in Table 1.

Households with lower incomes generally receive higher amounts, based on three levels determined using the Federal Poverty Limit (FPL) and state median income (SMI). Vulnerable households (households with at least one member who is elderly (at least 60 years old), living with a disability, or younger than age 6) receive a higher basic benefit.

Table 1: CEAP Benefits (2024)

Level	Eligibility	Basic Benefit Amount	Rental Assistance Benefit Amount	Crisis Assistance Payments (deliverable fuel heated households)
1	125% FPL or lower	\$480 (\$530 for vulnerable households)	\$125	Up to two payments of \$410
2	126% to 200% FPL	\$330 (\$380 for vulnerable households)	\$100	
3	201% FPL to 60% SMI	\$180 (\$230 for vulnerable households)	\$75	One payment of \$410

Though CEAP and LIHEAP primarily address energy assistance, [the 2024 LIHEAP plan](#) also includes the following conservation measures:

1. weatherization through WAP (see below) and DEEP’s [Residential Energy Preparation Services Program](#) to address health and safety barriers in CEAP-eligible homes, thereby enabling provision of weatherization services;
2. cleaning, tuning, and testing services for deliverable fuel heating systems (e.g., heating oil boilers); and
3. heating system repair or replacement for unsafe or inoperable equipment in single family, owner-occupied dwellings.

Weatherization Assistance Program (WAP)

WAP is federally funded, state-administered, and locally operated. The United States Department of Energy funds WAP, awarding grants to states to improve the energy efficiency of the homes of low-income families. States contract with local agencies to deliver WAP services.

In Connecticut, [DEEP administers WAP](#) in partnership with community action agencies. The program provides energy audits and weatherization measures (e.g., heating system tune-ups and repairs, blower door-guided air sealing, attic and sidewall insulation, and health and safety inspections) for income-eligible households in accordance with a federally approved [state plan](#).

Energy Conservation Loan Program

The law allows the housing commissioner to make low-cost or deferred loans to low-income state residents to purchase and install insulation, alternative energy devices, energy conservation materials, and replacement furnaces and boilers in residential structures with up to four units. The law also allows her to make loans to people living in certain dwellings with electric resistance heat

to purchase certain high-efficiency equipment ([CGS §§ 16a-40 to -40b](#)). In practice, [the Energy Conservation Loan Program](#) is currently limited to emergency situations only (e.g., non-working heating systems and leaking roofs), and it is open only to applicants who are ineligible for other programs.

Shutoff Protection and Matching Payment Program

The law protects certain utility-heated households from winter disconnection. Specifically, it prohibits electric and natural gas utilities from terminating residential service for “hardship cases” (e.g., customers who receive local, state, or federal public assistance) from November 1 to May 1 ([CGS § 16-262c](#)). The law further requires utilities to provide customers who have delinquent accounts with the opportunity to enter into a reasonable amortization agreement under which the utility must make matching payments toward the customer’s debt if the customer complies with certain requirements.

Energy Efficiency

Conservation and Load Management (C&LM) Plan

The C&LM plan generally includes (1) energy efficiency programs to reduce energy consumption by weatherizing buildings and upgrading appliances, among other things, and (2) load management programs to shift electricity use to off-peak periods. Programs under the plan are funded through gas and electric ratepayer funds, Regional Greenhouse Gas Initiative revenues, and certain payments related to [ISO New England’s forward capacity market](#).

By law, the state’s C&LM plan must, among other things, include steps needed to (1) weatherize 80% of the state’s residential units by 2030 and (2) reduce energy consumption by 1.6 million MMBtu (metric million British thermal units) (or equivalent megawatts) annually each year from 2020 to 2025 ([CGS § 16-245m\(d\)\(1\)](#)). Gas and electric utilities, working with the Energy Efficiency Board, must periodically submit a combined C&LM plan to DEEP for approval. For more information on C&LM plan requirements, see OLR Report [2021-R-0184](#).

DEEP approved the [2022-2024 C&LM plan](#) and the 2023 update to it, subject to [certain conditions](#). Table 2 shows the plan’s residential programs.

Table 2: 2022-2024 C&LM Plan Residential Programs

Program Name	Description
Retail Products Program	Effort to increase awareness of ENERGY STAR products and make them financially attractive through consumer education, point-of-sale marketing, an online sales platform, and other incentives
HVAC and Water Heating Equipment Program	Marketing, education, and financial incentives for high-efficiency HVAC and water heating equipment, with training for distributors and contractors
Residential New Construction	Incentives for builders and homeowners to use advanced energy-efficient building construction and technologies for new homes and major renovations or additions, with a tiered incentive structure, bonus incentives for advanced building certification, contractor and customer education, and code trainings
Home Energy Solutions (HES) and HES-Income Eligible	Facilitates energy efficiency upgrades in existing homes through customer education, direct installation of measures to save energy and hot water, and qualifying the home for additional measures
Multifamily Initiative	Assesses multifamily buildings and directly installs services for building tenants and owners
Behavioral Strategies	Utility effort to motivate customer behavior changes and encourage participation in energy efficiency programs with information, social cues, and other prompts
Demand Management Programs	Incentives for customers to enroll their devices (e.g., smart thermostats, HVAC equipment, and electric vehicle chargers) into active demand response offerings

Energize CT Heating Loan Program

The law requires electric and gas utilities in Connecticut to develop a residential furnace or boiler replacement program, funded through the systems benefit charge for electric ratepayers, and submit it to DEEP for approval. Replacement equipment must meet Energy Star standards, and homeowners repay loans provided through the program on their utility bills. The program must include a contract to retain a third-party administrator. By law, the program ends at the end of its eleventh year (i.e., 2024) ([CGS § 16-243v\(k\)](#)).

In practice, the program began in 2014 and is currently administered by Capital for Change, Inc., as the “[Energize CT Heating Loan](#)” program. A 2018 status report for the program is available on [DEEP’s website](#).

Environmental Improvement Revolving Loan Fund and Retrofit Pilot Program

The 2023 bond act requires DEEP, in collaboration with the Department of Housing, to start one or more pilot programs to provide financing for qualifying retrofitting projects in multi-family homes located in environmental justice communities or alliance districts. Under the act, this financing is funded through a new Housing Environmental Improvement Revolving Loan Fund. The act authorizes \$125 million in GO bonds to capitalize this fund (\$50 million for FY 24 and \$75 million for FY 25).

Qualifying projects generally must (1) improve a home's energy efficiency, (2) remediate health and safety concerns that are barriers to the retrofit, or (3) provide services to help residents and building owners access and implement the act's retrofit programs or other energy efficiency retrofit programs.

The act requires DEEP to begin accepting applications from owners of eligible units by July 1, 2024. Additionally, the department must report on the pilot to the Housing Committee by October 1, 2027, including (1) an analysis of its success and (2) recommendations on creating a permanent program. The pilot program terminates on September 30, 2028 ([PA 23-205](#), §§ 90 & 91).

Energy Storage

Energy Storage Solutions

The law requires PURA to initiate a proceeding to develop and implement programs and funding mechanisms for electric energy storage resources (e.g., batteries) connected to the electric distribution system, including at least one program for residential customers. PURA may select a third party, including the Green Bank or the EDCs, to implement these programs ([CGS § 16-243ee](#)).

In 2021, PURA established a statewide energy storage program for all utility customers ([Final Decision, Docket 17-12-03RE03](#)). As part of the residential program, the Green Bank administers an upfront incentive of up to \$16,000 for installing a battery, based on household income and the project's size and location. The EDCs administer performance-based incentives, providing payments to customers twice per year based on the battery's performance during peak summer and winter days. For more information, see [PURA's program summary](#), [the Energy Storage Solutions Program Manual](#) and [homeowner FAQ page](#), and [the program website](#).

Electric Vehicle Charging

Utility-Administered Electric Vehicle Charging Program

In a 2021 decision, PURA established a nine-year statewide [Electric Vehicle Charging Program](#), administered by the EDCs, that includes incentives for residential customers ([Final Decision, Docket 17-12-03RE04](#)). The program is currently in its third year.

The program provides upfront incentives up to \$1,000 for equipment and enrollment, including (1) smart (i.e., networked) charger rebates and wiring upgrade rebates of up to \$500 and (2) a \$100 enrollment incentive for customers who join the program and already have a smart charger or use telematics. (As described by the EDCs, “telematics” refers to a vehicle’s ability to wirelessly communicate with systems used to administer the program, sharing charging data and receiving signals that can slow the charging speed or turn the charger on or off when the electric grid is strained.)

Once enrolled, customers may also receive ongoing incentives for “managed charging,” which includes (1) agreeing to charge their vehicles at certain times or according to a schedule and (2) participating in “load control events” to reduce usage when the electric grid is strained. These include “demand response events” where customers reduce electric usage for short periods of time, often after advanced notice, to respond to certain events (e.g., limited electricity supply) and “emergency demand response events” where utilities may override a customer’s charger to maintain the grid’s safety and reliability. Customers may opt out of these events but risk losing ongoing incentive payments.

For more information, see [the Connecticut Electric Vehicle \(EV\) Charging Program: 2023 Participant Guide for Residential EV Drivers](#). Eversource and UI also published this [FAQ page](#).

Renewable Energy

Residential Renewable Energy Solutions Program (RRES)

A central consideration for residential customers when purchasing or leasing renewable energy generation (e.g., solar panels) is the extent to which their utility company will purchase the power and compensate the customer for it. Under the RRES program, residential customers may enter into contracts to sell their energy and renewable energy credits (RECs) to Eversource or United Illuminating at a fixed 20-year price under either a (1) buy-all incentive rate structure where the utility buys all the energy and RECs the project generates or (2) netting rate structure where the utility buys all the project’s RECs and then credits the customer’s electric bill.

For more information, see [PURA's website](#) and OLR Report [2022-R-0144](#). Eligible residential customers may also subscribe to shared clean energy facilities to receive credits for energy produced by renewable energy facilities that are not located on the customer's premises. See OLR Report [2023-R-0028](#) for more information.

Green Bank Financing for Residential Projects

By law, the Green Bank authorizes expenditures from the Clean Energy Fund, which is funded through a one-mill-per-kilowatt charge on electric ratepayer bills ([CGS § 16-245n](#), as amended by [PA 23-170](#), § 20). This funding, along with other public and private funding sources, supports Green Bank programs that include financing for residential energy efficiency and renewable energy projects ([CGS § 16-245aa](#)). Table 3 describes Green Bank programs for residential customers and multifamily housing.

Table 3: Green Bank Programs for Residential Customers and Multifamily Housing

Program	Description
Smart-e loans	Low-interest financing up to \$50,000 for home performance and efficiency measures (e.g., sealing, insulation, and lighting) or renewables (e.g., solar hot water heaters, solar generation, and solar generation with battery back-up) for owner-occupied residential buildings with one to four units
Navigator pre-development loans	Financing for energy assessments (e.g., benchmarking; design, engineering, and bidding work; and energy-related health and safety assessments) for multifamily properties with at least five units
Health and safety loans	Loans for low-income multifamily properties with at least five units to address mold, asbestos, leaking pipes, failed roofs, and other health and safety issues (often a prerequisite for energy efficiency projects)
Loans Improving Multifamily Efficiency (LIME)	Financing for energy efficiency and renewable energy improvements for multifamily properties with at least five units
Commercial Property Assessed Clean Energy Program (C-PACE)	Allows building owners to finance qualifying energy efficiency and renewable energy improvements by placing a voluntary assessment on their property tax bill (C-PACE is generally not available for residential properties, but multifamily properties with at least five units are eligible)
Solar power purchase agreements (PPA)	Allows owners of multifamily buildings to purchase electricity generated by a solar facility located on the building but developed and managed by the Green Bank and its partners

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