# Connecticut Department of Energy and Environmental Protection

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

# EESI Congressional Briefing: Energy Efficiency Means Business

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# State Energy Program (SEP)

- Each $1 of SEP federal funds leverages $10.71 of non-federal funds
- Each $1 of SEP federal funds produces annual energy savings of 1.03 million source BTUs and cost savings of $7.22.

# C&LM Annual Legislative Report 2020

**Every $1.00 collected results in an additional $4.84 of clean energy investment**

This investment by residential, business and municipal energy customers improves the quality of life in Connecticut.

**44,094 Jobs**

Clean energy investment supports Connecticut jobs in HVAC, electrical, manufacturing, insulation, weatherization and solar industries. (Includes 36,000 efficiency jobs)[1]

**$6.2 Billion increase to the gross state product**

Generated by the Conservation and Load Management Plan (Eversource, CNG, SCG and UI) and the Comprehensive Plan (Connecticut Green Bank).[2]

**Energy savings equivalent to a 122 MW power plant**

This is enough energy to power approximately 40,923 homes for a year.

**186,081 tons of $CO_2$ emissions avoided, plus $5.2 Million in public health costs saved**

Supporting our state's drive towards carbon neutrality.[3]

**$72 Million in Connecticut tax revenues**

Generated from energy efficiency, renewable and financing measures supported by the Conservation and Load Management Plan (Eversource, CNG, SCG, UI) and the Comprehensive Plan (Connecticut Green Bank).[4]

# Annual Program Energy Savings

**Table 1-1: 2019-2021 Savings & Benefits***

| Year | Budgets ($000) | | | Annual Savings | | | | | | Lifetime Savings | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Electric | Natural Gas | Total | Electric (GWh)* | Peak (MW) ** | Natural Gas (MMcf) | Oil (gallons) | Propane (gallons) | $CO_2$ Emissions (tons) | Lifetime Benefit ($000) | Lifetime Savings (MMBtus) *** |
| **2019** | $185,395 | $52,903 | $238,298 | 305 | 48 | 718 | 982,912 | 232,819 | 208,702 | $924,563 | 25.4 |
| **2020** | $211,849 | $58,075 | $269,924 | 316 | 86 | 661 | 946,494 | 403,841 | 211,970 | $994,851 | 26.0 |
| **2021** | $188,016 | $53,466 | $241,482 | 210 | 79 | 574 | 853,751 | 371,670 | 154,530 | $727,924 | 19.7 |
| **TOTAL** | **$585,259** | **$164,445** | **$749,704** | **831** | **213** | **1,953** | **2,783,157** | **1,008,330** | **575,202** | **$2,647,338** | **71.1** |

*Abbreviation for Gigawatt hours.
**Savings include demand response programs.
***In millions of MMBtu (one million British Thermal Units).

# 2019-2021 Plan Priorities & Key Themes

1. Advance state energy and environmental policy goals
2. Offer tailored solutions for market segments while ensuring equitable distribution
3. Focus on direct savings to customers
4. Develop and maintain a sustainable workforce for Connecticut
5. Continuous commitment to deliver comprehensive energy efficiency strategies
6. Implement effective demand reduction strategies
7. Continue to explore and implement financing options

# State Energy Program (SEP)

Ongoing Connecticut projects:

- EnergyCAP program tracks utility use & cost in state buildings
- EV Infrastructure & planning
- Addressing health and safety barriers to weatherization
- Heat pump adoption initiatives to support building decarbonization
- Supporting energy affordability through Home Energy Score
- Developing the clean energy workforce through investments in programs at local community colleges

# EnergyCAP Utility Tracking Software

- Robust, web-based software used to track utility use and cost at state buildings
- DEEP works with each state agency to import utility data and understand use and cost trends dating to 2018
- Currently tracking 3,941 state owned or leased buildings
  - 11,731 individual utility meters
- Helped achieve over $12 million (8%) in energy savings
  - Decrease of almost 400,000 MMBtus (6%)
- Supported by SEP funds

ENERGYCAP®

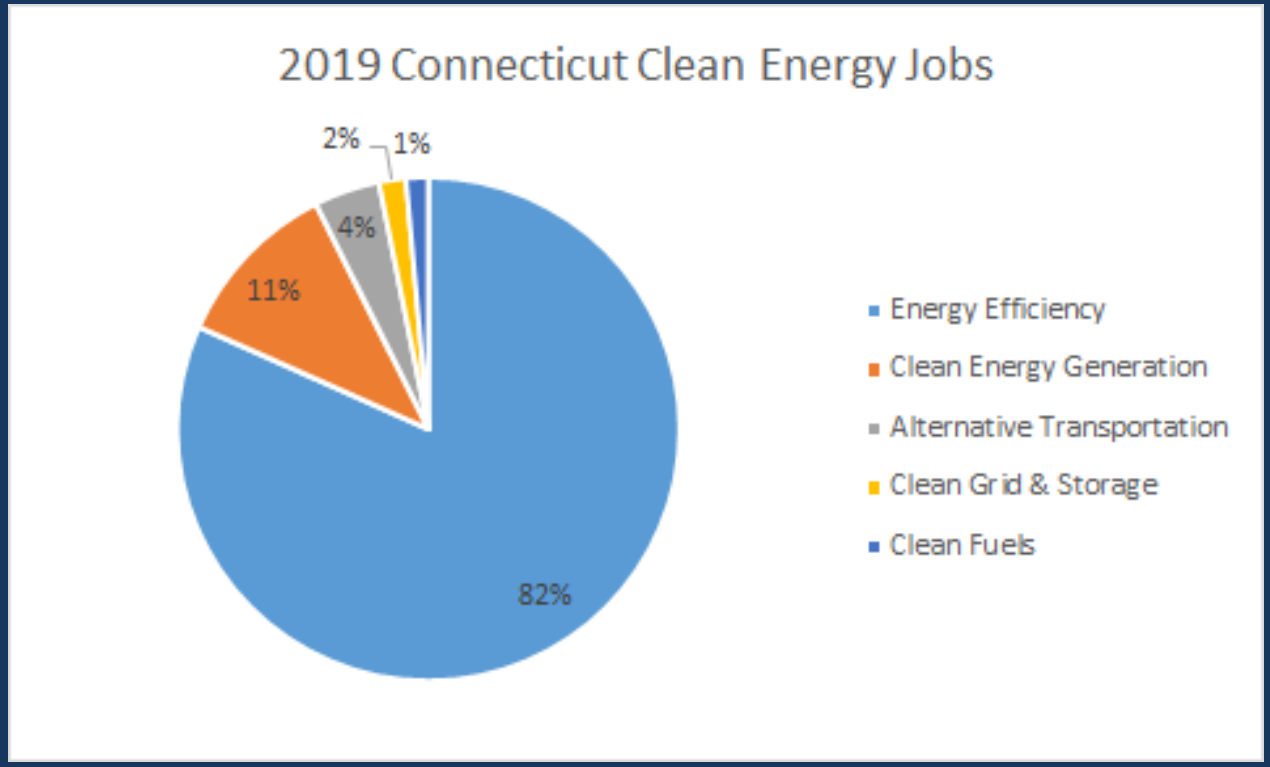
# Compost Aeration Heat Recovery project

- Installed at local CT farm in 2017
- The system increases compost decomposition through forced aeration
- Waste heat is recovered and utilized for space and water heating on the farm
- Example of a unique project supported by SEP funds

- Increased compost production revenue by $21,000 in first year
- Decreased diesel fuel usage by 1,400 gallons
- Decreased labor by 400 hours annually

# Connecticut Energy Efficiency Workforce

- Clean energy jobs accounted for 2.6% of total jobs in Connecticut at the end of 2019 and 80% of clean energy jobs are in energy efficiency.
- The energy efficiency sector supports 36,000 jobs statewide across a variety of roles.



# Weatherization Barriers

The challenge:

- Health and safety barriers like mold, asbestos, and lead paint result in weatherization deferrals
- 165,000 homes in Connecticut have weatherization barriers
- 23% of income-eligible households are prevented from being weatherized

Solutions:

- Identify and leverage sustainable funding sources
- Coordinate with other agencies and services to generate referrals for weatherization and remediation programs
- Improve community engagement

# Microgrids and Resilience

September 2020 Special Session PA 20-5 § 15 —

**MICROGRID AND RESILIENCE GRANT AND LOAN PILOT PROGRAM**

The act expands the DEEP-administered microgrid grant and loan program to ***also support resilience projects***, including those related to climate change.

Governor's 2022-2023 biannual budget recommends **$5 million/year** in new bond funds for microgrid and resilience projects under new program

# Microgrids and Resilience

PA20-5 expanded the allowed uses for funding from the program to include:

1. community planning that includes microgrid or resilience project feasibility, including cost-benefit analyses;
2. assistance for the cost of design, engineering services, and interconnection infrastructure for resilience projects;
3. resilience projects connected to storage systems or certain distributed energy systems; and
4. non-federal cost sharing for grant or loan applications for projects or programs that include microgrids or resilience.

- Requires DEEP to prioritize proposals that benefit vulnerable communities.
- Allows DEEP to hire a technical consultant to help implement the program.
- Specifies that the program can accept proposals from nonprofit and academic entities seeking to develop eligible projects.

# Weatherization Assistance Program (WAP)

- Federally funded by US Department of Energy
- Provides weatherization services to low-income residents
- Benefits include:
  - Mechanical: Repair/replace heating systems and water heaters; install programmable thermostats; insulate ductwork and water pipes
  - Building Shell: Insulate attic and sidewalls; air sealing; repair/replace windows and doors
  - Health and Safety: Testing of heating systems and combustion appliances; ventilation installation; smoke and CO detector installation; incidental repairs

# Weatherization Assistance Program (WAP)

## Nationally

- $4,695 average weatherization cost per unit
- $283 in average annual savings per unit
- For every $1.00 invested:
  - $1.72 in energy benefits
  - $2.78 in non-energy benefits

## Connecticut

- 2021 budget: $3.4 million
  - 15% Administration
  - 15% Health and Safety
  - 20% Training and Technical Assistance
  - 50% Program Services
- Since 2017, CT WAP has weatherized 299 homes

# Prioritizing Equity in DEEP's Energy work

- **Internal Equity Team**
- **2021 Conservation and Load Management  Plan Update**
- **Integrated Resources Plan**
- **Weatherization Barrier Remediation**
- **Transportation Climate Initiative Program**
- **Supporting New Legislation to address Home Energy Affordability**

# E3 (Equitable Energy Efficiency) Proceeding

- Phase 1 Draft recommendations releasing for public input in March 2021
- Covers several stakeholder recommended topics
- Intended to address and improve equity in our ratepayer-funded energy efficiency programs

# NASEO Funding Requests

- **U.S. State Energy Program: $90 million for the Fiscal year 2022 Annual Appropriation.**
- **Weatherization Assistance Program: $360 million.**
- **NASEO's SEP funding request under a stimulus or infrastructure package: $3.8 billion.**