

Clean Energy Development Fund Advanced Wood Heat Incentive Programs Impact

20-Year Program Impact

Since 2015, the Clean Energy Development Fund (CEDF) has provided five Advanced Wood Heat (AWH) incentive programs for Vermont's residents, businesses, and institutions:

- Windham Wood Heat Initiative (2016-2019)
- Clean Heat Community Challenge (2016)
- Windham County Renewable Energy Grants (2017-2019)
- Northern Border Regional Commission grants (2017-2018)
- Small-Scale Renewable Energy Incentive Program (SSREIP, 2014-2019)



\$10 million
retained in
VT's
economy



10 million
gallons of
heating oil
displaced



55,000 tons
of CO₂
equivalent
avoided

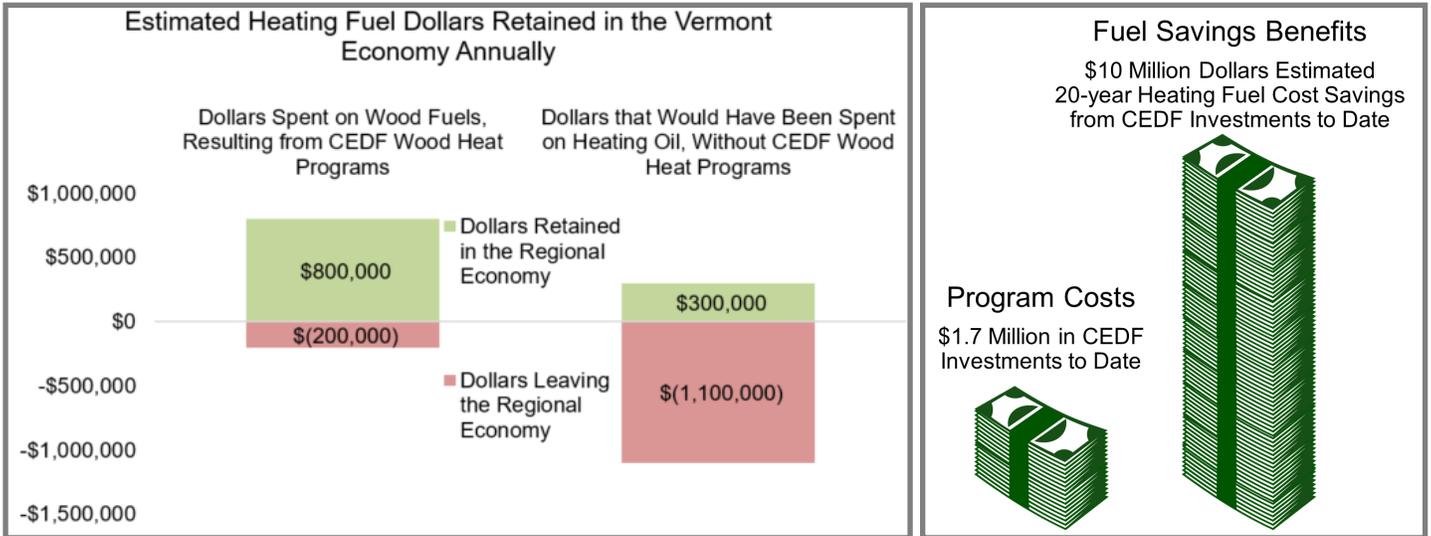
CEDF incentives have been vital to overcoming the key market adoption barrier of first costs of AWH projects. Without CEDF support, the economic and environmental benefits of AWH installations would likely not have been realized. Program impacts are summarized below.

CEDF Advanced Wood Heat Estimated Programs Impact in Vermont

Note: Totals may not add up due to rounding

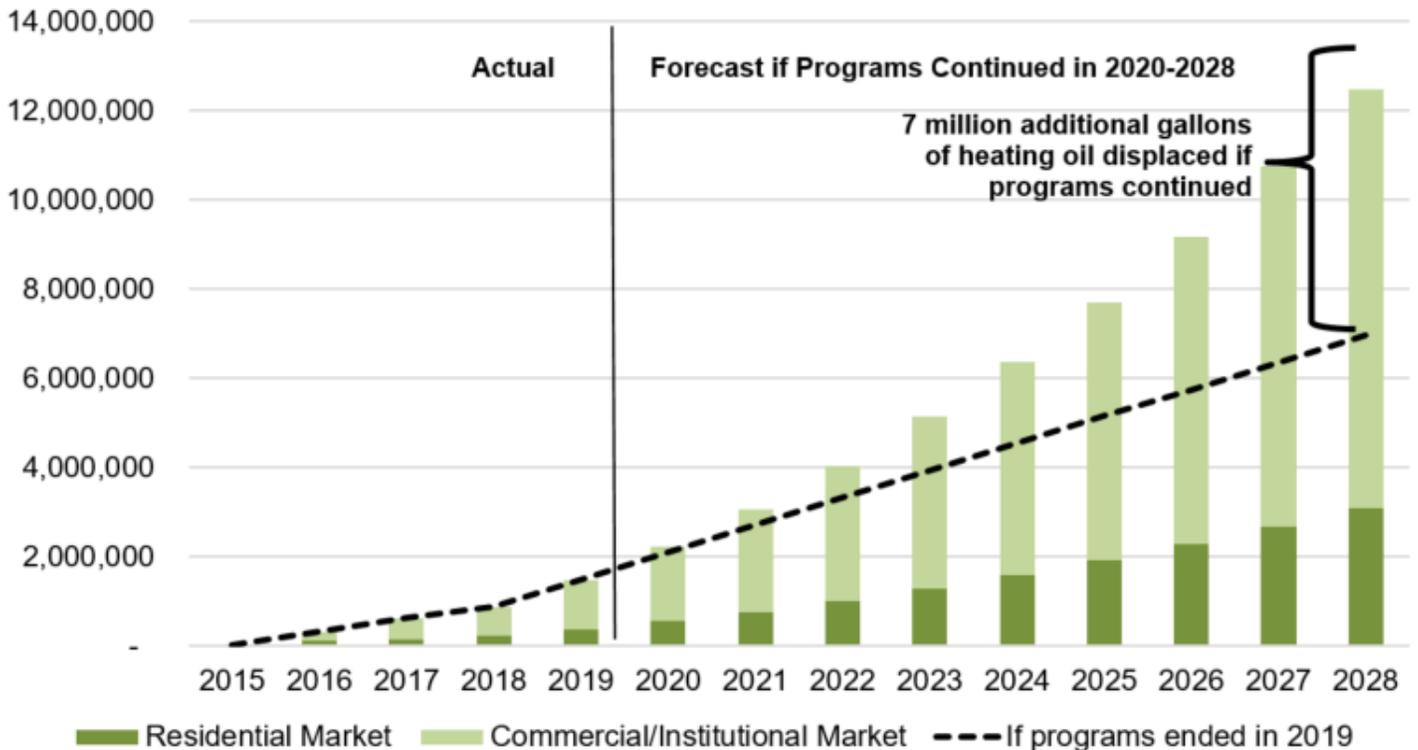
	Residential Market	Commercial/ Institutional Market	Total
Number of new systems installed through the AWH programs	122	57	179
Heating Oil Equivalent Displacement			
Annually (gallons)	120,800	367,500	488,200
Annually per system (gallons)	990	6,450	N/A
20-year cumulative displacement (gallons)	2.4 million	7.3 million	9.8 million
Estimated Net Carbon Savings			
Annually (tons CO ₂ e)	680	2,060	2,750
20-year cumulative savings (tons CO ₂ e)	13,600	41,300	54,900
Additional Wood Fuel Demand Created			
Annually (tons of pellet equivalent)	980	3,000	3,980
Funds Invested and Cost Savings			
CEDF funds invested to date	\$378,022	\$1,350,198	\$1,728,220
Building owner funds invested (estimated)	\$1,921,000	\$5,002,000	\$6,923,000
Annual fuel cost savings (estimated)	\$121,000	\$369,000	\$490,000
20-year fuel cost savings (estimated)	\$2.4 million	\$7.4 million	\$9.8 million
Investment leverage ratio (public to private)	1:5	1:4	1:4

The various CEDF wood heat programs have stimulated economic development in Vermont while also reducing net greenhouse gas emissions. CEDF program investments in Advanced Wood Heating to date have yielded fuel savings benefits about 6 times greater than the program costs.



Each AWH system installed will continue to displace oil annually into the future. The cumulative impact keeps growing over time, because for every additional AWH installation, the annual amount of heating oil displaced can be added to fuel savings from systems already installed. If the program funding ends and there are no further AWH installations after 2019, in 10 years from now the cumulative amount of oil displaced will be only half of what it would be if the CEDF programs are able to continue incentivizing more AWH installations.

Cumulative Gallons of Oil Equivalent Displaced by CEDF Programs



Clean Energy Development Fund

A Track Record of Job-Creating Success



CEDF Enabled:

179 Advanced wood heat systems offsetting **496,175** gallons of fossil fuel a year¹

18,759 workers in clean energy jobs²

3,293 solar systems³

Vermont's Clean Energy Development Fund (CEDF) was established in 2005 by the General Assembly to increase the local supply and utilization of distributed, small-scale, community-supported renewable electricity, heating and transportation, while targeting related economic development advantages. ⁴

- ✓ Build a Clean Energy Market
- ✓ Increase Economic Development
- ✓ Support Vulnerable Vermonters
- ✓ Decrease Environmental Impact
- ✓ Increase Cost Effectiveness

The renewable energy projects supported by the CEDF in 2018 create local energy (the equivalent of **7,328** MWh per year) and have the following environmental benefits:

Annually eliminate the use of **191,635** gallons of fossil fuel

Annually reduce climate pollution by **2,281** metric tons⁵



“Without the incentive from the Clean Energy Development Fund, we wouldn’t have been able to make the switch to advanced wood heating, which will be saving us thousands and offsetting thousands of gallons of fossil fuels.” Eileen Peltier, Downstreet Housing

Without new funding, the CEDF will be depleted of funds in 2020.

All funds and outstanding loan payments will deplete the CEDF in FY20. This means that the current \$6,000 incentive for advanced wood heat will be diminished to \$3,000 – a detriment to Vermonters working to cut energy costs, support local forests, and reduce climate pollution.

“You will likely see the demise of advanced wood heat in Vermont without robust incentives. We are already far behind other states like Massachusetts that are currently offering up to \$16,500 in incentives on these systems.” Dan Davis, Cutting Edge Energy Systems



- ✓ Find a permanent funding stream for the Clean Energy Development fund in 2019
- ✓ Support local clean energy and forestry which employs 6% of Vermont’s workforce



Project Showcase:

Bourne’s Energy Bulk Pellet Storage Silo, Hyde Park Vermont



“The CEDF made the Hyde Park silo project possible. Without programs like the CEDF, we wouldn't be able to shift our business model to include local wood in our portfolio. We hope that as time progresses, we can continue to grow our pellet business and do our part in helping Vermont meet its renewable energy commitments.” Peter Bourne, Bourne’s Energy

¹ Biomass Energy Resource Center Data

²Vermont Department of Public Service Vermont Clean Energy Industry Report

³Small Scale Renewable Energy Incentive Program Report 2015

⁴CEDF Annual Report Fiscal Year 2018

⁴30 V.S.A. § 8015