

Finding the Funds

Financing Community Energy Improvements



Image courtesy: Syracuse New Times

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Vermont Energy and Climate Action Network and University of Vermont Extension

11th Annual Community Energy and Climate Action Conference
“Mobilizing Leadership to Make Bold Progress”

December 1, 2018





Vermont Clean Energy Finance Report 2018

About Energy Futures Group

Vermont-based clean energy consulting firm established in 2010

Areas of Expertise

- Energy Efficiency & Renewable Energy
- Program Design
- Policy Development
- Expert Witness Testimony
- Building Codes
- Evaluation
- Cost-Effectiveness

Range of Clients

- Government Agencies
- Advocates
- Regulators
- Utilities

Clients in 39 states and provinces plus regional, national and international organizations.

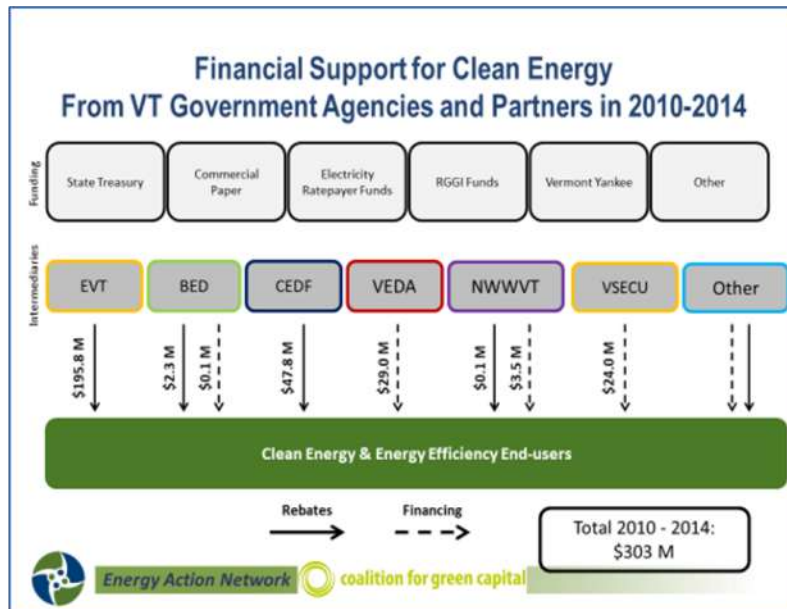


Vermont Clean Energy Finance Report Overview

1. Why
2. What
3. Findings



1. Why a “Vermont Clean Energy Finance Report?”



Vermont identifies over \$33 billion in clean energy investment

Data as of January 2015

	Selected Technologies	Total Current Installed Capacity	Total Potential Market	Total Unfilled Potential Cost
1	Wind	214 MW	329 MW	\$312 M
2	Solar PV	87 MW	2,248 MW	\$6,000 M
3	Energy Efficiency	Electric	993 GWh	5,219 GWh
		Thermal	218,000 MMBtu	32,000,000 MMBtu
4	Bioenergy Electric Generation ¹	88 MW	132 MW	\$158 M
5	Transportation	801 EVs 43 Public EVSE	400,000 EVs 127,000 Bio Vehicles 20,000 Bio Trucks 500 Public EVSE	\$415 M for Vehicles \$279 M for EVSE \$1,194 M Total
6	Thermal Fuel Switching	N/A	20,000,000 MMBtu	\$6,898 M
7	Electric Grid Upgrades ²	N/A	N/A	\$7,034 M
	TOTAL	N/A	N/A	\$33,322 M



Energy Action Network



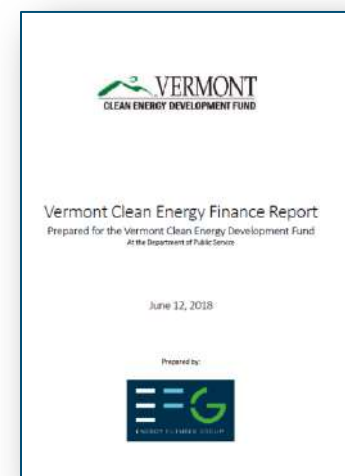
coalition for green capital

Notes & Sources: (1) Only includes power generation. Does not include bioenergy used for end-use efficiency. (2) Includes end-user smart-grid technology, and grid investments. Potential markets based on analysis by EAN.

2. What is the “VT Clean Energy Finance Report?”

A “snapshot” of the VT clean energy financing market:

- A review of what financing can, and cannot, do
- Surveys & Interviews
- An assessment of what’s missing
- A compilation of available financial products



https://publicservice.vermont.gov/sites/dps/files/documents/Renewable_Energy/CEDF/Reports/Vt._Clean_Energy_Finance_Rpt_2018.pdf

Funded by the Clean Energy Development Fund housed at the Vermont Public Service Department – with thanks to Chris Kramer, Peter Adamczyk, Bob Barton

2. *What* do we mean when we say...

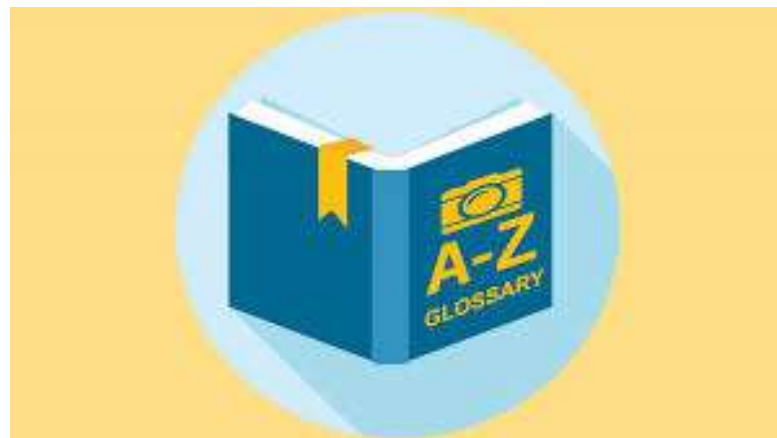
“Clean energy finance *product*” ...

...lease, loan, credit card purchase, payment plan, a home refinance or home equity line of credit. Financing is **not** a direct incentive, subsidy or rebate – this is funding.

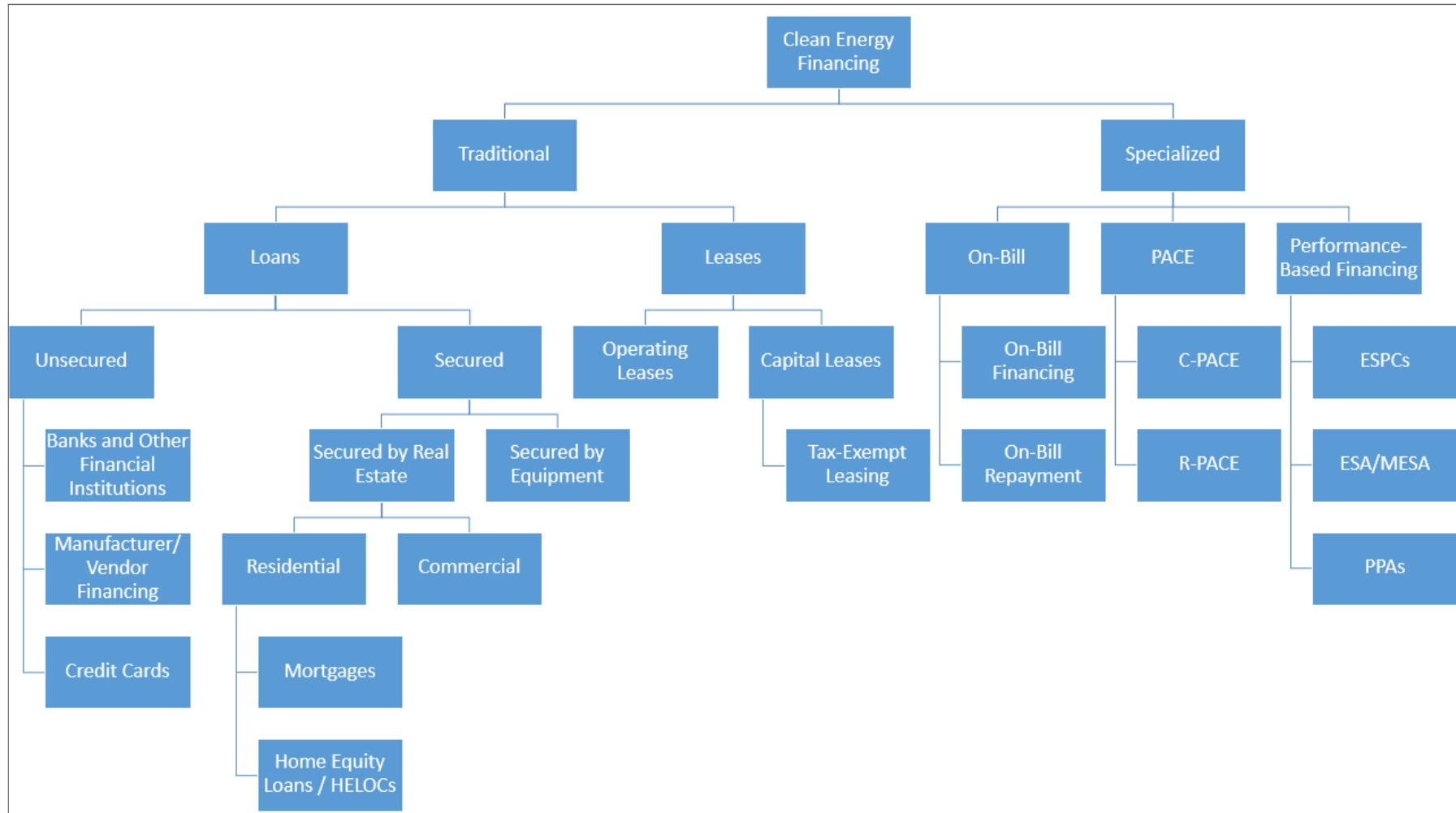
“Clean energy *project*” ...

...a solar array, a comprehensive building efficiency retrofit, an electric vehicle, an upgrade to manufacturing equipment...it is not a “small ticket” item.

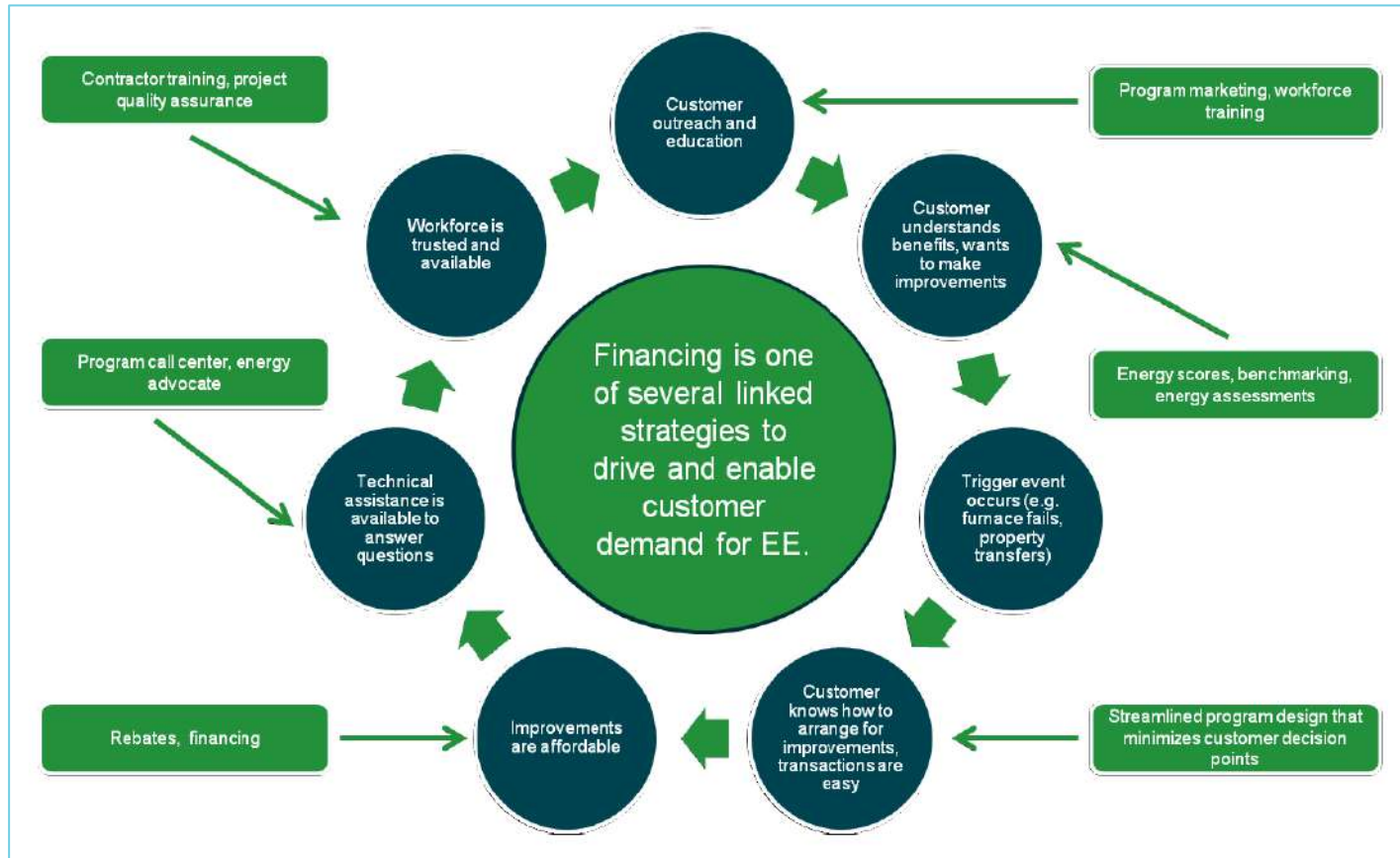
“High cost” is not the same as **“upfront cost”**



2. What are the different types of financing products?

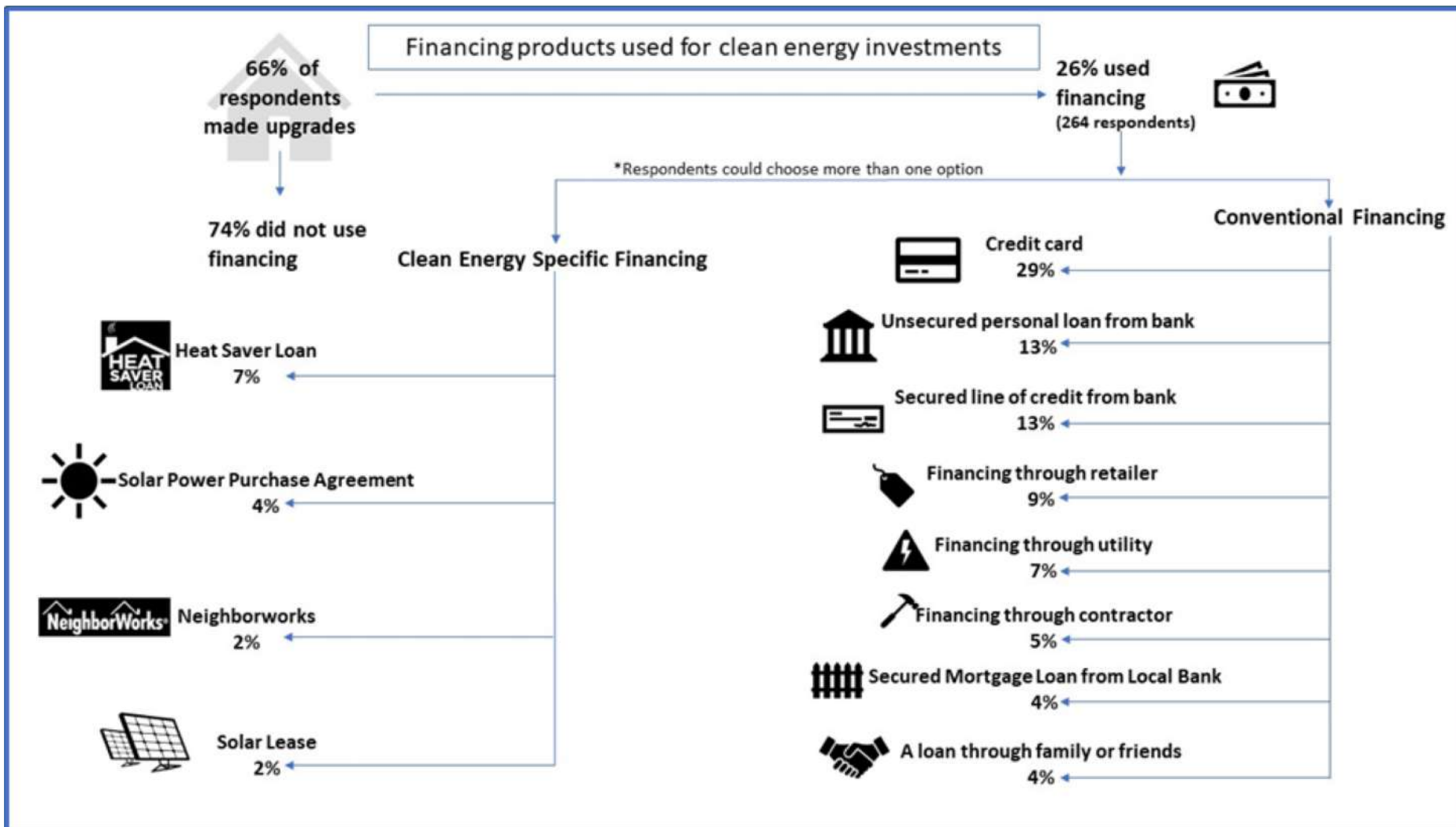


2. What can financing do, and not do?

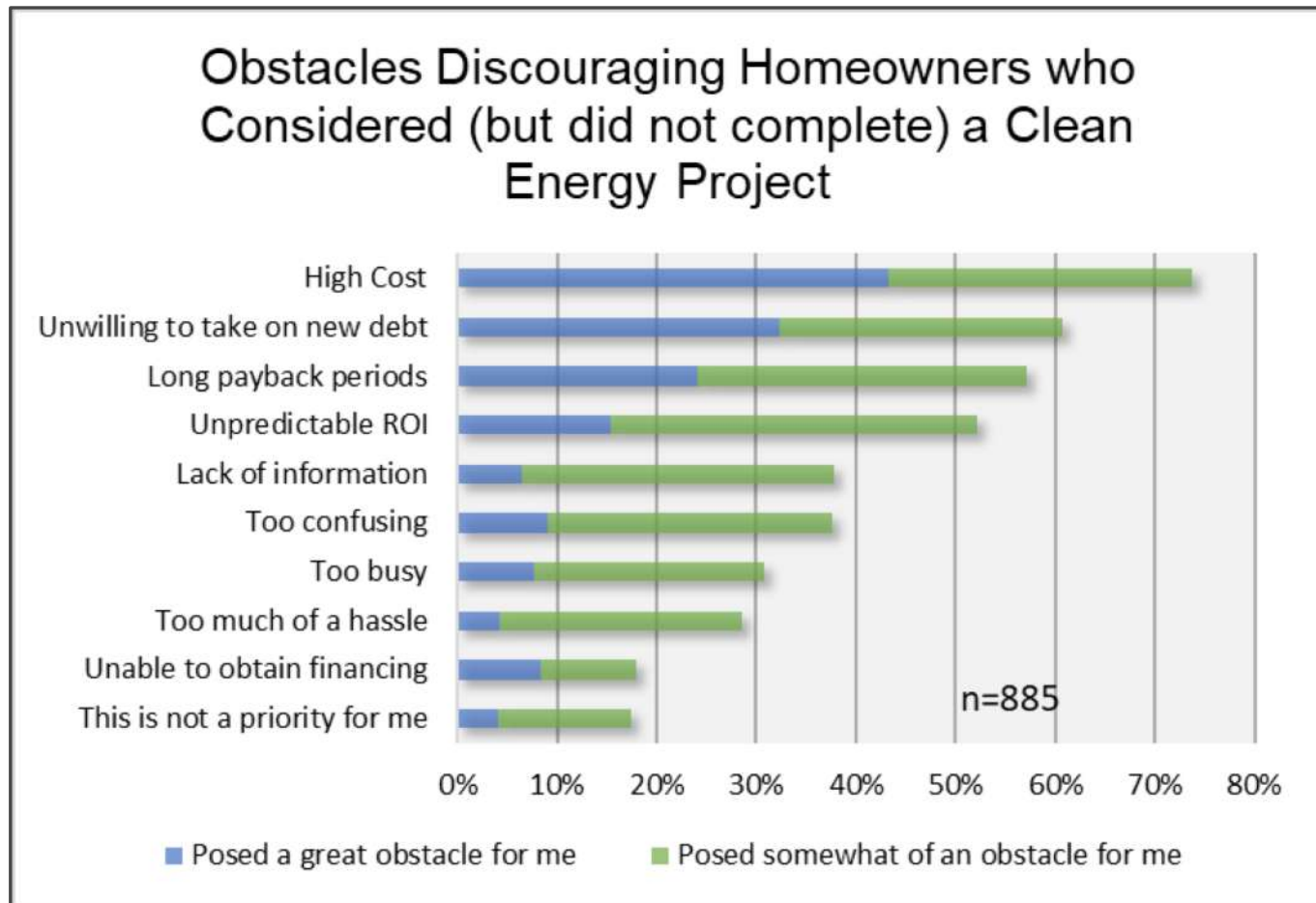


Source: SEE Action 2013

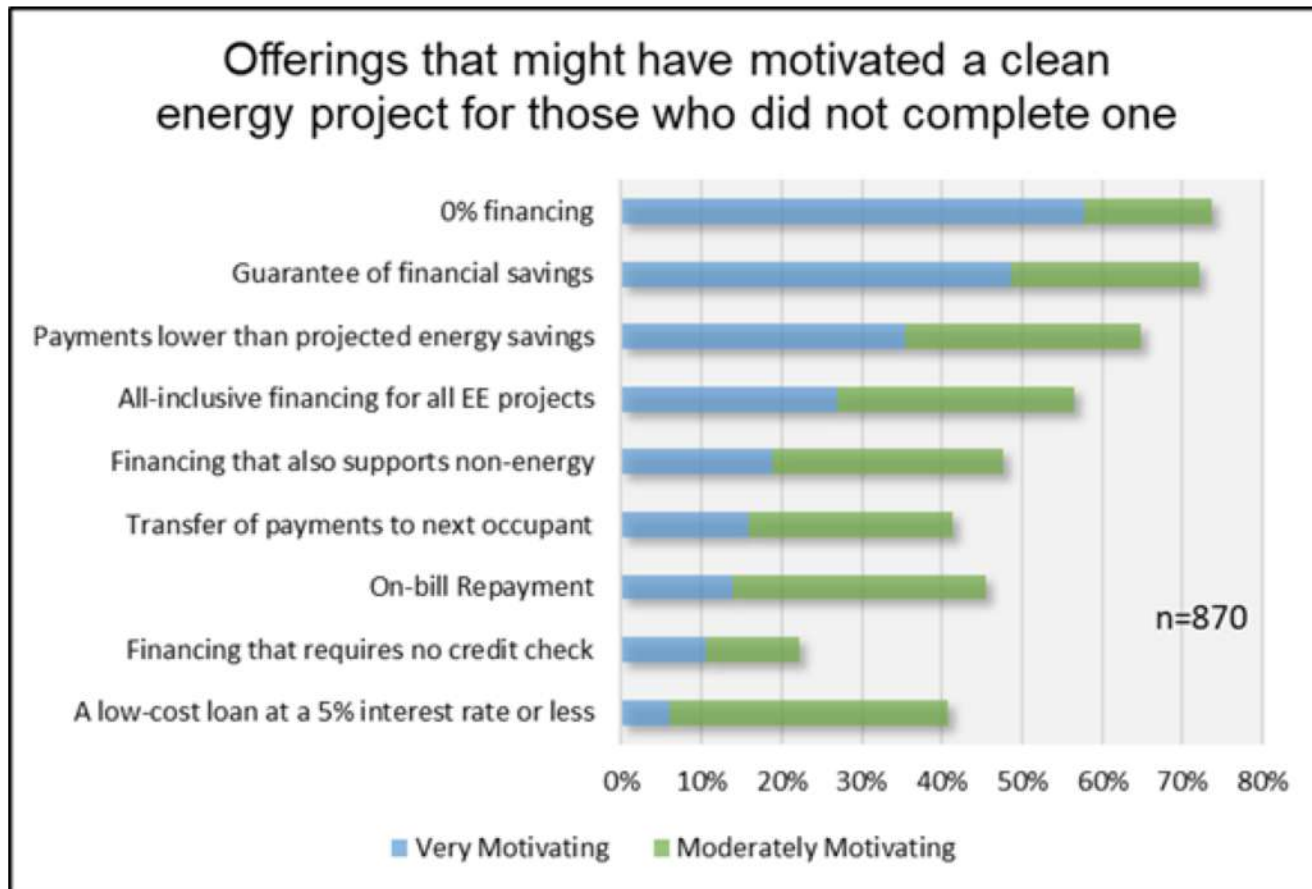
3. Findings: Homeowner Results



3. Findings: Homeowner Results



3. Findings: Homeowner Results



Customers might be interested in...a cash-flow positive, savings-guaranteed offering.

3. *Findings:* Homeowner Results

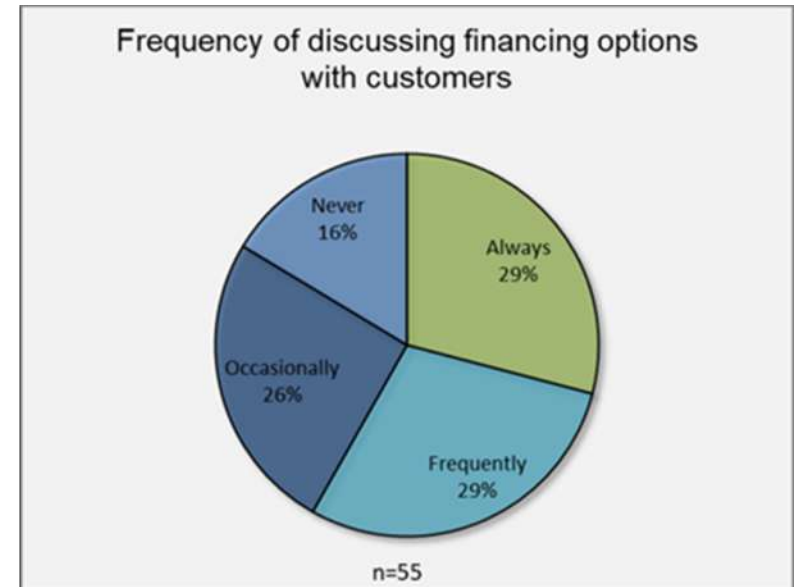
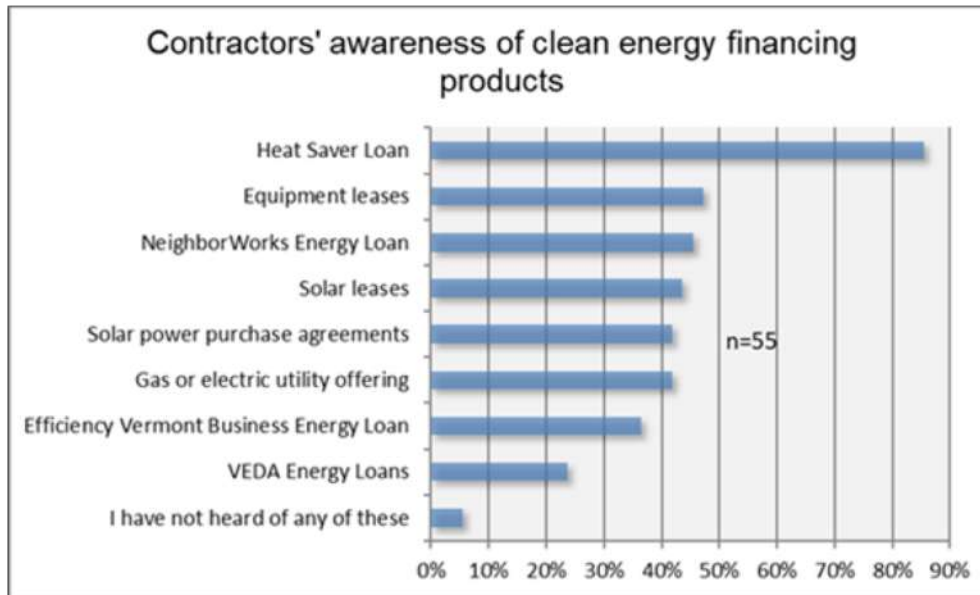
- They know they can take out traditional financing (>70%)
- They do not want to go into debt (>70%)
- 74% of homeowners who completed a clean energy project did not use financing
- For the 26% who used financing, credit cards were the first go-to product, followed by bank loans and lines of credit
- For those who use financing, it's a deal breaker; without financing, they could not have done the work (only 17% said they could have definitely done the work otherwise)
- Obtaining financing was not a major barrier for the majority of survey respondents (69%); however, for the 31% who said obtaining financing is somewhat/very difficult, stretch underwriting would help
- They feel this work costs too much (>70%)
- Nearly half of those who said they didn't do a project said "affordable" financing *might* have helped them move forward...or maybe not
- An "affordable" rate is 2-3% (>30%)
- They would really like 0% financing (>70%)...but after that, they'll take a guarantee on the savings (>70%)

3. *Findings:* Business/Commercial Results

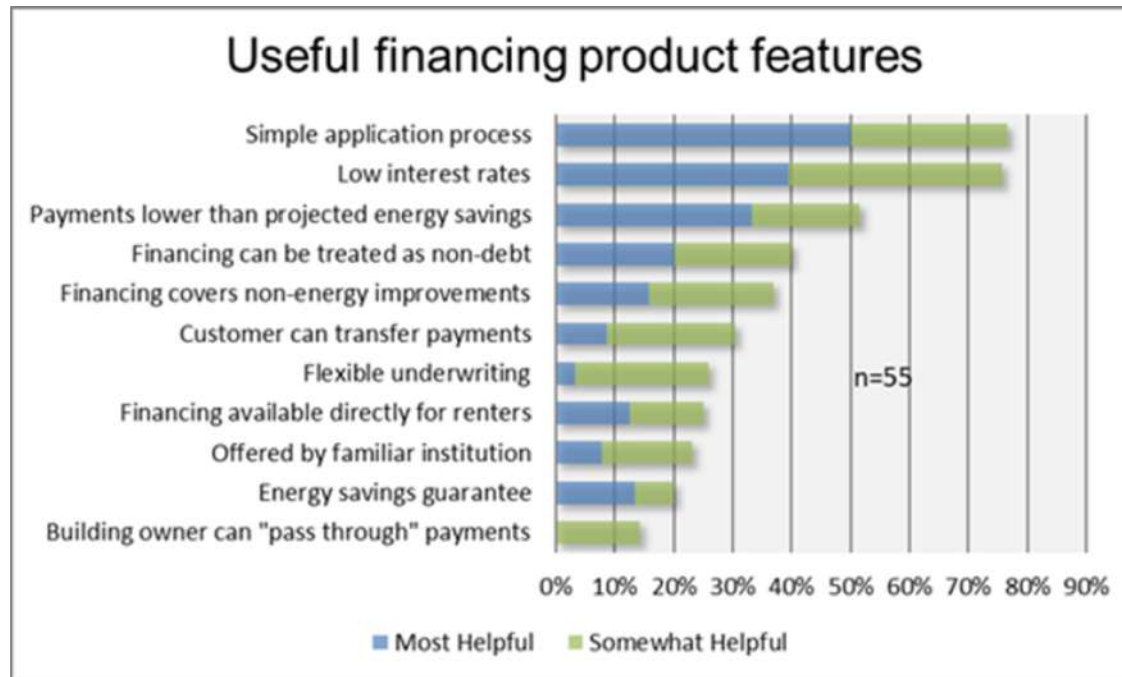
- They feel this work costs too much
- They do not want more debt
- They know there are financing options available, and they do not think obtaining financing is hard...but they'd appreciate a quicker, easier process
- A guarantee of the energy savings would help motivate them to move forward with projects, along with financing payments that are less than the energy savings

Caveat: LOW RESPONSE RATE (n=17), BUT CORROBORATED BY OTHER DATA SOURCES

3. Findings: Contractor/Installer Results



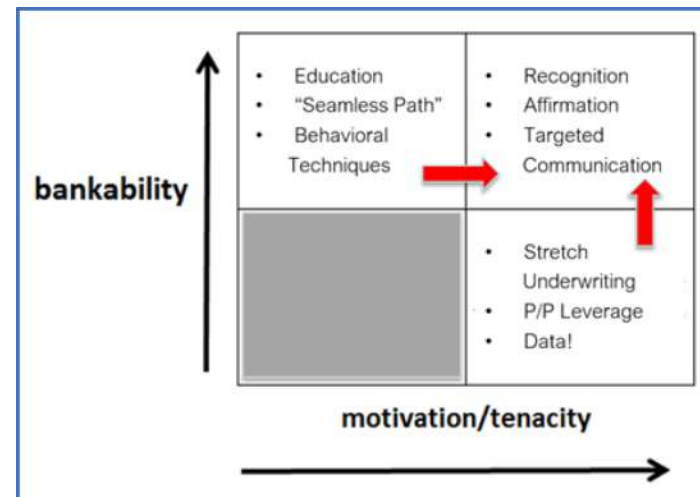
3. Findings: Contractor/Installer Results



In sum: If the financing product is easy to explain and administer, contractors will act as the marketing agent.

3. Findings: Lender Results

- Generally, they feel they are meeting their customers' needs
 - Note: 31% of homeowners said it was somewhat/very difficult to obtain financing
- Lenders feel that they cannot convince a customer to finance a clean energy project
 - The customer must already want to complete the project and more education is needed in this area
- 53% offer a specialized product; 47% do not
 - Of the 47% that do not offer a specialized product, 43% had at one time done so but felt there was not enough demand
 - Setting up energy-specific products take time and resources; need compelling reason
- They feel there are other issues that make clean energy projects challenging for customers to complete
 - Complexity in technology and in project scope
 - High project cost



Customer Categories: Bankability and Motivation (P. Adamczyk)

3. Findings: Multiple Products are Available (see handout)

Vermont Clean Energy Financing Products: Residential		
Provider of Product	Examples of Specific Products	Detailed Description
Collaborations and Partnerships	Efficiency Vermont Heat-Saver Loan (with various credit unions)	Secured and unsecured low interest loans for a range of efficiency improvements. Low-income rate of 0.99% for terms up to 5 years, and 2.99% for terms >5 years up to 15 years. Statewide
	Vermont Gas Residential Heating Loan	For high efficiency heating systems (for heating and hot water) via Green Mountain Credit Union. 0% to 4% loans for terms of 3, 5 & 20 yrs, on bill.
	Burlington Electric Department Electric Vehicle Financing	Utility partnership with three credit unions to offer low and no-interest loans.
Community Development Financial Institutions (CDFIs)* and Community Loan Funds	Vermont Electric Co-op Community Solar	10- and 20-year plans with fixed solar energy monthly credit and financing via NeighborWorks of Western VT.
	Champlain Housing Trust Housing Loan Fund: Home Repair Loans	Income- and location-qualified for energy upgrades identified in an audit. Security 2nd mortgage. Max amount \$25k (\$35k for manufactured homes). Interest rates: 1.5% - 4.5% APR. Northeastern VT. Loans may be deferred, due on sale or assumable by next owner if income-eligible.
	Champlain Housing Trust Housing Loan Fund: Manufactured Housing Down-Payment Loan Program	Income- and location-qualified for downpayment loans to replace old manufactured home with a new Energy Star rated model. Security 2nd mortgage. Max amount \$27.5k. No interest and no monthly payments; loan balance paid off when home is sold or transferred to income-eligible household. Northeastern VT. Out of funds (March 2018).
Federal Government Products	Champlain Housing Trust Housing Loan Fund: Manufactured Housing Down-Payment Loan Program	Income- and location-qualified for downpayment loans to purchase a Vermont High Performance Home. Security 2nd mortgage. Max amount \$25k. No interest and no monthly payments. Principal due upon sale, transfer to income-eligible household or refinance. Northeastern VT. Out of funds (March 2018).
	Greenest Homes and Community Development Home Repair Loans	Income-qualified loans for weatherization, health and safety and solar hot water. Central VT.
	Windham and Windsor Housing Trust: Home Repair Loans	Income-qualified loans for weatherization, health and safety improvements. Discounts for wood or pellet stoves. Southeastern VT.
Utilities	Burlington Community Development Corporation: Home Repair Loans	Income- and location-qualified loans for weatherization, health and safety improvements. Northeastern VT.
	NeighborWorks of Western Vermont: Home Repair Loans	Income- and location-qualified loans for weatherization, health and safety improvements. Southeastern VT.
	NeighborWorks of Western Vermont: Energy Loan	One-pick loan offering on-bill repayment option for Green Mountain Power customers. Range of eligible amounts, 4.99% unsecured, up to 30 years, up to \$40,000. Statewide.
Utilities	Green Mountain Power: Test Powerwall	0.15/month lease for 10 years or \$1,500 upfront payment for Powerwall and install on bill.
	Green Mountain Power: Ductless Heat Pump	249-281/month lease (180 months, 10.74% APR). Program updates coming soon.
	Green Mountain Power: Heat Pump, Hot Water Heater, Green Mountain Power: Products related to electric vehicles	25-244/month lease (180 months, 10.74% APR). Program updates coming soon.
Federal Government Products	US Dept. of Housing and Urban Development: Federal Housing Administration Energy Efficient Mortgage	FHA insures a borrower's mortgage for a home purchase or refinance and covers the cost of energy improvements on top of mortgage. Maximum amount varies. Not readily available throughout Vermont (may be available for Lapeer/Valley through New Hampshire lenders). Launched March 2018.
	US Dept. of Veterans Affairs: Guaranteed Energy Efficient Mortgage	Allows qualified borrowers to add up to \$6,000 to a mortgage for approved energy improvements into a loan at time of home purchase or refinancing. Offered via private mortgage lenders.
	US Dept. of Agriculture Rural Development: Single Family Housing Repair Loans	Also known as Section 504 Home Repair program. Up to \$20,000 at 3% fixed, up to a 20-year term for very low-income homeowners to repair, improve or modernize their homes.
Federal Government Products	Electric New Home/Single Energy Mortgage Loan	One-pick efficiency mortgage product that provides loan dollars for energy efficiency improvements when purchasing or refinancing home. Can borrow up to \$5,500 above home value without an "improvement" appraised value, can borrow up to \$5,500 above home value without an "improvement" value. Supporting this additional amount. Requires a energy report and scope of work, among other requirements.

*Note: CDFIs are also known as Nonprofit Community Development Organizations (NCOs)

Vermont Clean Energy Financing Products: Institutions (Municipal, University, School and Hospitals)		
Provider of Product	Examples of Specific Products	Detailed Description
Private Finance Tools	Self-Managed Revolving Loan Fund	Governments/hospitals/non-profits and higher education institutions can set up a self-managed revolving loan fund with terms and parameters set by hosts. Savings are used to pay for future projects; projects vary by need and interest of host.
	Endowment Institute: Building Energy Savings Together	The "BEST" Fund is a pooled revolving loan fund for under-resourced institutions that need capital for energy efficiency projects.
	Energy Performance Contracting via Energy Service Companies (ESCOs)*	ESCOs are a type of company that typically combine an energy savings guarantee with a lease or bond to provide an Energy Performance Contract to suit the needs of the institution (government, schools, larger facilities). Usually there is a price floor for entry.
Utilities	Municipal Leasing and Lease Purchase Financing	Allows units of government to obtain energy upgrades with less cost than other financing options; terms vary 2-20 years, build equity and own at the end of term. The most common mechanism is a municipal tax exempt lease purchase agreement.
	Vermont Gas: Commercial Customer Financing Program	Vermont Gas offers 0% interest loans for 3 years, 2% for 5 years and 4% for 10-year loans through the Green Mountain Credit Union for upgrading to a new high efficient heating system. The maximum loan per individual applicant is \$15,000. Also available are loans for small retrofit and equipment replacement projects.
	Vermont Municipal Bond Bank (VMBB)	Provides support for municipalities to issue tax-exempt bonds including those that support renewable energy and energy efficiency projects.
Municipal	Municipal Revolving Loan Funds	Some towns operate or contract to others for operations of revolving funds that can be used for infrastructure including energy upgrades. The City of Montpelier is the first to undertake this initiative in Vermont specifically for clean energy.
	United States Department of Agriculture Rural Development: Community Facilities Direct Loan Program	Low interest direct loans (below 4% for Q2 2018) for up to 100% of the project cost for facilities that provide "an essential community service" such as health care services, local government services (libraries, cultural facilities) and educational services. Term is "up to the useful life of the asset" (up to 30 years).
	United States Department of Agriculture Rural Development: Rural Economic Development Loan Program (REDL)	0%, 10-year loan for nonprofit utilities for projects that will create or retain rural jobs.
State	Vermont Department of Buildings and General Services (BGS): "State Energy Management Program", State Resource Management Revolving Loan Fund (SRMRF) and State Energy Revolving Fund (SERF)	SRMRF: \$1.5 million fund available for resource conservation measures. SERF: Up to \$8 million (at the discretion of the State Treasurer) for energy efficiency and renewable projects at state properties. State Funds are managed by the Treasurer's Office with BGS technical staff overseeing individual projects.
	VEDA: Electric Vehicle Charging Station Loan Program	Funded through the State Infrastructure Bank with Vermont Agency of Transportation and the Federal Highway Administration. Up to \$100,000 for purchase/installation of electric vehicle charging stations that are available for public use. 1% fixed rate, term dependent on useful life of asset; 2% commitment fee.
	VEDA: Vermont 504 Corporation	VEDA's affiliate Vermont 504 Corporation helps borrowers access the Federal Small Business Administration program to finance fixed asset projects including renewable energy and energy efficiency projects with loans of up to 40% of a project (max loan \$5.5 million). Loans are 10-year terms on equipment, or 20 or 25 year terms on real estate projects.
Federal Government	VEDA: Tax-Exempt Revenue Bond Program for Non-Profits	Renewable and efficiency projects undertaken by 501(c)(3) non-profits. Low interest rate due to the tax exemption on the interest income to the bondholder. Frequently bought by banks or other investors and sometimes publicly issued.

*Note: Although not a specific product, this type of product is used frequently and hence is provided in the table.

Vermont Clean Energy Financing Products: Businesses		
Provider of Product	Examples of Specific Products	Detailed Description
State	Vermont Economic Development Authority (VEDA): Commercial Energy Loan Program	Up to \$2 million (usually 10% of project cost) to finance qualifying efficiency and renewables projects. Rates and terms set by date.
	VEDA: Agricultural Energy Loan Program	For agriculture- and forest product-based businesses. Up to \$2 million. Term, rates, % of project cost determined case by case.
	VEDA: Electric Vehicle Charging Station Loan Program	Funded through the State Infrastructure Bank with Vermont Agency of Transportation and the Federal Highway Administration. Up to \$100,000 for purchase/installation of electric vehicle charging stations that are available for public use. 1% fixed rate, term dependent on useful life of asset; 2% commitment fee.
State	VEDA: Vermont 504 Corporation	VEDA's affiliate Vermont 504 Corporation helps borrowers access the Federal Small Business Administration program to finance fixed asset projects including renewable energy and energy efficiency projects with loans of up to 40% of a project (max loan \$5.5 million). Loans are 10-year terms on equipment, or 20 or 25 year terms on real estate projects.
	VEDA: Tax-Exempt Revenue Bond Program for Non-Profits	Renewable and efficiency projects undertaken by 501(c)(3) non-profits. Low interest rate due to the tax exemption on the interest income to the bondholder. Frequently bought by banks or other investors and sometimes publicly issued.
	VEDA: Municipal Revolving Fund Loans	Up to \$100,000 used in converting and converting to district heating systems. 4% fixed rate, 7-year term. City of Montpelier contributes 10% of the project cost. \$300 application fee and 1.2% commitment fee at closing.
CDFI & Community Loan Funds	Western Community Loan Fund: Business Loans	Up to \$200k with an average rate of 3.25% with fees ranging from \$200 to \$2,000. For application fee: \$250 (minimum) and 1% origination fee. Collateral or required. Loan can be used for a variety of energy- and energy specific that has been used multiple times for energy costs.
	Utilities	Burlington Electric Department: On-Bill Financing Service
Collaborations and Partnerships	Efficiency Vermont: Resource Energy Loans	No closing costs. 100% financing available. No business plan required. Available for small businesses and multi-family rental housing.
	Efficiency Vermont: Energy Loan Program	No closing costs. 100% financing available. No business plan required. Available for small businesses and multi-family rental housing.
Federal Government	US Dept. of Agriculture Rural Development: Single Family Housing Repair Loans	Also known as Section 504 Home Repair program. Up to \$20,000 at 3% fixed, up to a 20-year term for very low-income homeowners to repair, improve or modernize their homes.
	US Dept. of Agriculture Rural Development: Single Family Housing Repair Loans	Also known as Section 504 Home Repair program. Up to \$20,000 at 3% fixed, up to a 20-year term for very low-income homeowners to repair, improve or modernize their homes.

3. Findings: Challenges and Opportunities to Address

Residential:

- Limited funds to support credit enhancements
- Underwriting processes that rarely account for energy savings
- Limited energy savings guarantees
- Report references: Sealed, Posigen, Zero Energy Now, Energy Savings Mortgage Program

Commercial (or “business”):

- Underwriting processes that rarely account for energy savings
- Few off-balances sheet finance options
- Report references: Joule Assets, Efficiency Capital

Institutional (or, MUSH):

- Limited capital
- Short loan terms that limit the depth of energy savings achieved in a project

Broadly:


- No coordinated and consistent tracking system to establish a baseline of existing financing products and to determine progress in using financing in facilitating clean energy projects



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PRINCIPAL

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 **energyfuturesgroup.com**



Energy Efficient Investments ENE Energy Advisors

Introduction to Performance Contracting

Mike Davey



The EEI & ENE Energy Advisor

A proven process ...

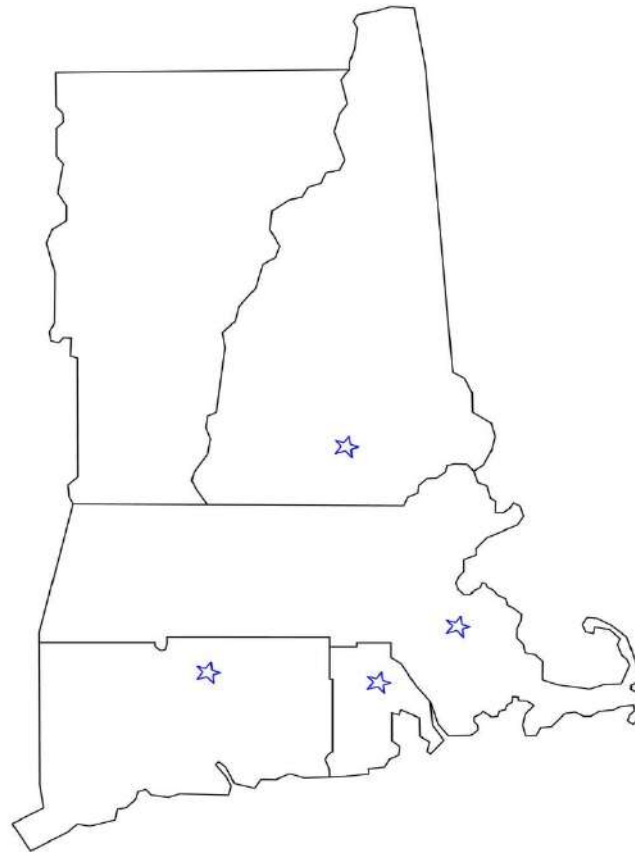


ENE System, Inc. is the largest independently owned controls contractor in New England (Since 1987)

EEI Systems was founded by ENE to service Northern New England clients (Since 2007)

Local ownership and management

Office Locations



Project Success Stories

**Addison Northeast
Bennington, VT
Keene School District
Shaker Regional School District**







How to fund projects

- In Budget (Chesterfield & Portsmouth Example)
- Warrant Article (Addison and Bennington)
- Board Lease approval (Plymouth and Fall MT)



What is a Performance Contract?

- Vermont State Law:
 - **2013 Vermont Statutes**
Title 16 Education
Chapter 123 STATE AID FOR CAPITAL CONSTRUCTION COSTS
§ 3448f Energy performance contracting; authorization; state aid
 - State law allows project to be financed for a period of up to twenty years
 - State law allows for lease finance payment of projects
 - RFP must be issued
 - Energy Savings pay for project over time.



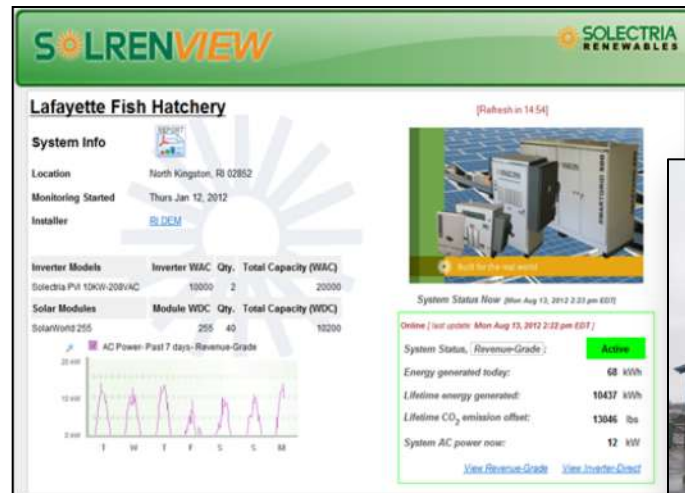
Energy Performance Contract Goals

- Improve Buildings
- Reduce Energy Cost
- Increase renewable options (Solar/Bio-mass)
- Create a Project that is cost neutral in which energy savings pay for project cost
- Reduce Energy Consumption
- Energy Savings will be guaranteed

Unique Opportunities

Solar Photovoltaic (PV)

- Installing solar panels helps the end user generate electricity to be used, stored, or sold back to the utility companies.
- Utility rebates and tax deductions are available.
- End users are able to see the energy they are generating using a web based monitoring interface.



Sample Project

Plymouth High School

- \$2,000,000 dollar project
- School District will save over \$120,000 per year
- Project will be "Tri-Fuel"
- Funded in cost neutral budget
- New LED lighting
- New Transformers





Manchester School District

- \$4 Million in Energy Efficiency spending across 22 buildings
- Replace Outdated Equipment
- New LED Lighting
- More than \$800,000 in Grants and rebates
- More than \$325,000 in Energy Savings

Manchester Transformers

Existing
Transformers were
50 years old,
oversized and
inefficient. New
Transformers had a
payback of 3 years.





Bennington Vermont

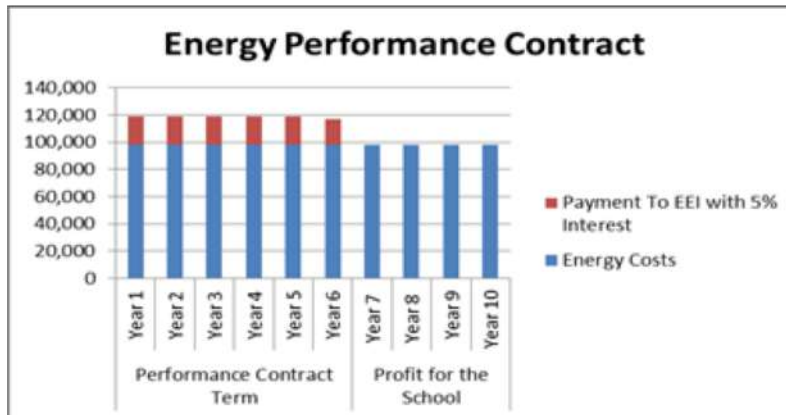
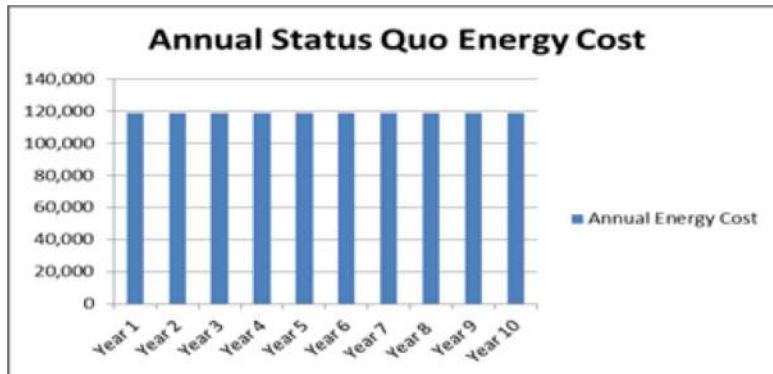
- 4.4 Million dollar project
- LED Lighting
- VFD Controls
- New Exterior Windows
- New boilers and steam conversion



Addison Northeast

- Natural Gas Conversion
- LED Lighting
- Building Controls
- Building Insulation Improvements
- Transformer Replacements
- Solar PV

Energy Savings Pay for Improvements

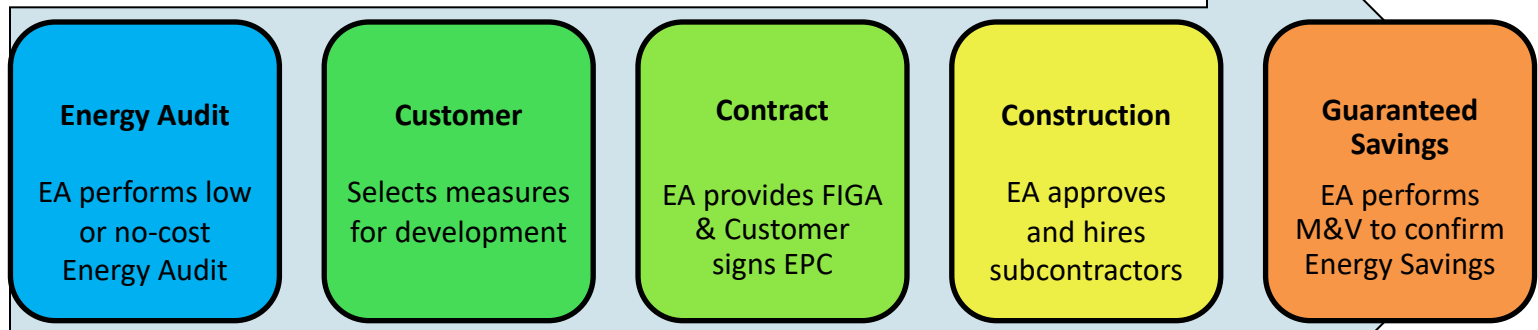


Example Sample NH High School new lights, controls, and HVAC improvements where paid for through grants and energy savings

Our Lean ESCO Approach

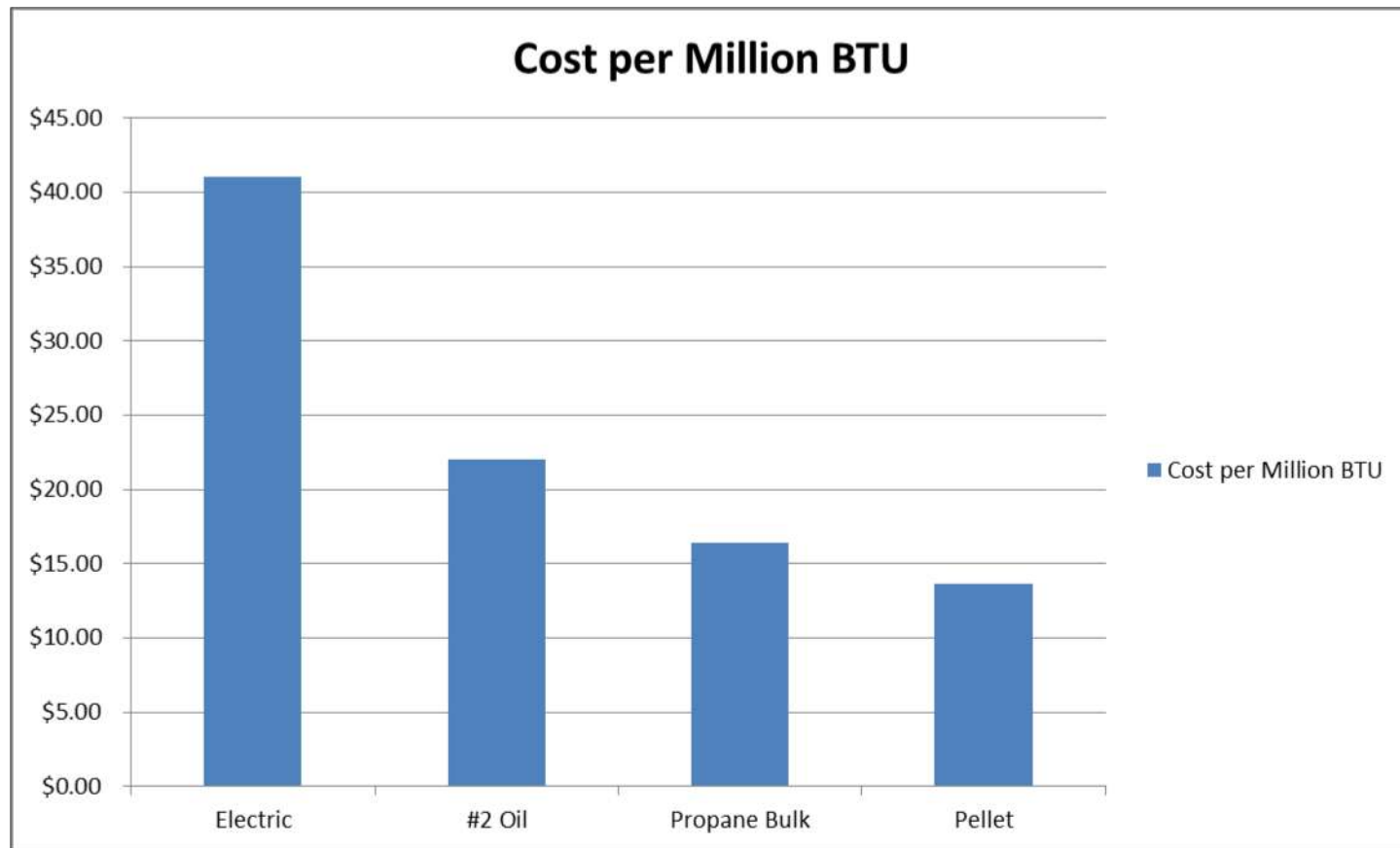
Similar to General Contracting with the following exceptions:

- 1) Focused on energy and operational savings
- 2) Assist in financing projects & finding grant/rebate funds
- 3) Self perform Engineering Services
- 4) Guaranteed Savings
- 5) M&V Program to ensure long term savings



FIGA – Final Investment Grade Audit
EPC – Energy Performance Contract
M&V – Measurement & Verification

State of Vermont Current Fuel Economy



Energy Projects



Similar to General Contracting with the following exceptions:

- 1) Focused on energy and operational savings
- 2) Assist in financing projects & finding grant funds
- 3) Self perform Engineering Services
- 4) Guaranteed Savings
- 5) M&V Program to ensure long term savings

HVAC Controls Improvements

- DDC Controls Upgrade
- Demand Control Ventilation
- Re-Balancing
- VFD Drives





Question & Answers

***Follow-up questions can be emailed to Mike Davey
at MDavey@EEIServices.com***

NET ZERO MONTPELIER

LAUNCHING A
REVOLVING LOAN FUND



MONTPELIER ENERGY
ADVISORY COMMITTEE



WWW.NETZEROMONTPELIER.ORG

An aerial photograph of a solar farm with rows of blue photovoltaic panels installed on a green grassy field. The panels are arranged in a grid pattern, and the grass is visible between the rows. The image is used as a background for the slide.

PURPOSE

The purpose of the Fund is to capture and track savings from municipal sustainability projects and to utilize part of those savings for subsequent projects.



MONTPELIER ENERGY
ADVISORY COMMITTEE

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HISTORY

Spring 2016: MEAC reached out to the Sustainable Endowments Institute for help in setting up the Revolving Loan Fund.

Summer 2016: We formed a Revolving Loan Committee made up of 3 city staff and 3 MEAC members to review loan proposals.

Fall 2016: Montpelier City Council allocated \$20,000 from the Reserve Fund to establish a green revolving loan fund for municipal energy projects. Efficiency Vermont offered to match with an additional \$10,000.

Winter 2017: Committee developed guidelines and loan application process. Set up GRITS database to track projects.

Spring 2017: RFP issued for energy audits of 6 municipal buildings

Winter 2018: Audit report completed by Cx Associates

Spring 2018: One-on-one meetings with city staff to review audit recommendations

Fall 2018: First projects underway



MONTPELIER ENERGY
ADVISORY COMMITTEE

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BUILDING THE FUND

Cost savings from all funded projects will accrue to the Fund according to the following formula:

- 1) Until the project's cost have been recovered, all savings will accrue to the Fund.
- 2) After the initial "payback" has been achieved, 50% of the savings will accrue to the Fund for an additional 2 years.
- 3) After this period, all further avoided cost savings will accrue to the City.
- 4) Additional funds can be added to the Fund at any time from public or private sources, subject to the same restrictions.





CURRENT PROJECTS

Weatherize 150 windows in City Hall

Upgrade house lights in City Hall theater

Install 16 interior storm windows at
Department of Public Works office

COMPLETED PROJECT

Install capacitor at water treatment plant to
reduce peak demand charges



MONTPELIER ENERGY
ADVISORY COMMITTEE

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PROJECT TRACKING



City of Montpelier

TOTAL PROJECTS
FUNDED
(COMPLETED /
IN-PROGRESS)

1 / 4

TOTAL INVESTED
TO DATE *

\$ 2,700

MEDIAN
PAYBACK PERIOD

1.35 years

MEDIAN ANNUAL
FINANCIAL
SAVINGS

\$ 2,000

MEDIAN ANNUAL
ENERGY SAVINGS

0.00 mmbtu

TOTAL FINANCIAL
SAVINGS TO DATE

\$ 3,288

TOTAL ENERGY
SAVINGS TO DATE

0 mmbtu

TOTAL EMISSIONS
ABATED TO DATE

0 MTCO₂e

Efficiency data powered by  **GRITS**

* Includes investments to in-progress projects without savings to date
Last updated 11/23/2018



MONTPELIER ENERGY
ADVISORY COMMITTEE

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<input type="checkbox"/>	PROJECT ▲	STATUS	INSTALL COMPLETE DATE	TYPE	Actual or Projected			Annual Savings		
					COST	ANNUAL ROI	PAYBACK (YRS)	EMISSIONS (MTCO2E)	ENERGY (MMBTU)	WATER (GAL)
<input type="checkbox"/>	Capacitor	Completed	04/03/2017	◦ Metering/Energy Data Monitoring and Control Systems	\$ 2,700	64.1%	1.3	0	0	0
<input type="checkbox"/>										
<input type="checkbox"/>	City Hall Lighting Up-grade	In-Progress	12/31/2018	◦ Lighting	\$ 4,876	2.3%	8.1	2	15	0
<input type="checkbox"/>	City Hall Window Air Sealing	In-Progress	12/31/2018	◦ Building Envelope	\$ 6,500	-5.0%	0.0	0	0	0
<input type="checkbox"/>	Dehumidifier Replacement	Proposed	12/31/2019	◦ Building Heating, Ventilation, Air Conditioning (HVAC)	\$ 148,776	-10.0%	0.0	0	0	0
<input type="checkbox"/>	DPW Office Interior Storm Windows	In-Progress	12/31/2018	◦ Building Envelope	\$ 1,568	-5.0%	0.0	0	0	0
<input type="checkbox"/>	Police Station Cooling Up-grade	In-Progress	12/31/2018	◦ Building Heating, Ventilation, Air Conditioning (HVAC)	\$ 147,000	-6.7%	0.0	0	0	0
<input type="checkbox"/>	Police Station HVAC Controls	Proposed	09/01/2017	◦ Building Heating, Ventilation, Air Conditioning (HVAC)	\$ 7,500	188.2%	0.5	49	512	0

ENERGY AUDITS

Spent \$20,000 in
2017 to audit 6
municipal buildings

CITY STAFF

encourage City
staff to propose
projects

RETRO COMMISSION

Deep dive into HVAC
on 4 municipal
buildings - paid by EVT

MEAC

energy committee
members can
propose projects



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CHALLENGES

1. Getting quotes from subcontractors
2. Quantifying potential savings for GRITS to identify payback
3. Identifying point people at each facility
4. Need for project manager to coordinate subs



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RECOMMENDATIONS

- Plan on 12 months to set up a Fund
- Work with the Sustainable Endowments Institute to develop policy and guidelines
- Work with Efficiency Vermont to access incentives and retro-commissioning expertise
- Conduct energy audits to identify potential projects and rank measures according to payback time
- Develop baseline energy data for each building to determine savings



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LEARN MORE

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Finding the Funds – Q&A

Financing Community Energy Improvements



Image courtesy: Syracuse New Times

Richard Faesy, Energy Futures Group

Mike Davey, Energy Efficient Investments

Kate Stephenson, Montpelier Energy Advisory Committee

Vermont Energy and Climate Action Network and University of Vermont Extension

11th Annual Community Energy and Climate Action Conference
“Mobilizing Leadership to Make Bold Progress”

December 1, 2018

