



## **THERMAL EFFICIENCY TASK FORCE – FINANCE & FUNDING SUBCOMMITTEE**

### **HOUSE NATURAL RESOURCES & ENERGY**

**January 24, 2013**



**Richard Faesy, Energy Futures Group**

# Overview



1. Overview of committee scope & participants
2. Current situation
3. Costs to meet the goals
4. How we will get there
  - ▣ Financing Options
  - ▣ Funding Options
5. Benefits
6. Q&A

# Subcommittee Charge

3

*Develop estimates of the levels of financing and funding, and identify financing mechanisms and sources of funding needed to achieve specified statutory and Comprehensive Energy Plan thermal efficiency goals for defined market segments under various scenarios.*

# F&F Subcommittee Participants

4

- Richard Faesy Energy Futures Group (Chair)
- Ed Delhagen Vermont Dept. of Public Service (Staff)
- Andrea Colnes Energy Action Network
- Ben Walsh Vermont Public Interest Research Group
- Chris Burns Burlington Electric Department
- Chris D'Elia Vermont Banker's Association, Inc.
- Craig Peltier Vermont Housing and Conservation Board
- Diana Chace Conservation Law Foundation
- Eileen Simollardes Vermont Gas
- Gabrielle Stebbins Renewable Energy Vermont
- Gaye Symington High Meadows Fund
- George Twigg Efficiency Vermont
- Gus Seelig Vermont Housing and Conservation Board
- Johanna Miller VECAN, c/o Vt. Natural Resources Council
- Joseph Bergeron Assn. of Vermont Credit Unions
- Norm Etkind School Energy Management Program
- Phil Cecchini Central Vermont Community Action Council
- Sandra Levine Conservation Law Foundation
- Tom Candon Vermont Department of Banking and Insurance

# Current Energy Efficiency Funding

Source	\$/Year	To
Natural Gas	\$2,200,000	VGS
Electricity	\$40,000,000*	EVT
Regional Greenhouse Gas Initiative	\$1,500,000	EVT
Forward Capacity Market	\$3,700,000	EVT
Gross Receipts Tax	\$7,900,000	LI WAP & LIHEAP
Clean Energy Development Fund	\$0	RERC/VEIC
GMP CEED Fund	\$21,000,000 **	Various

\* Most funding directed to electrical, not thermal efficiency

\*\* \$10 mil for WAP, \$1.2 mill. for electric, \$1.5 mill. for thermal programs in 2013

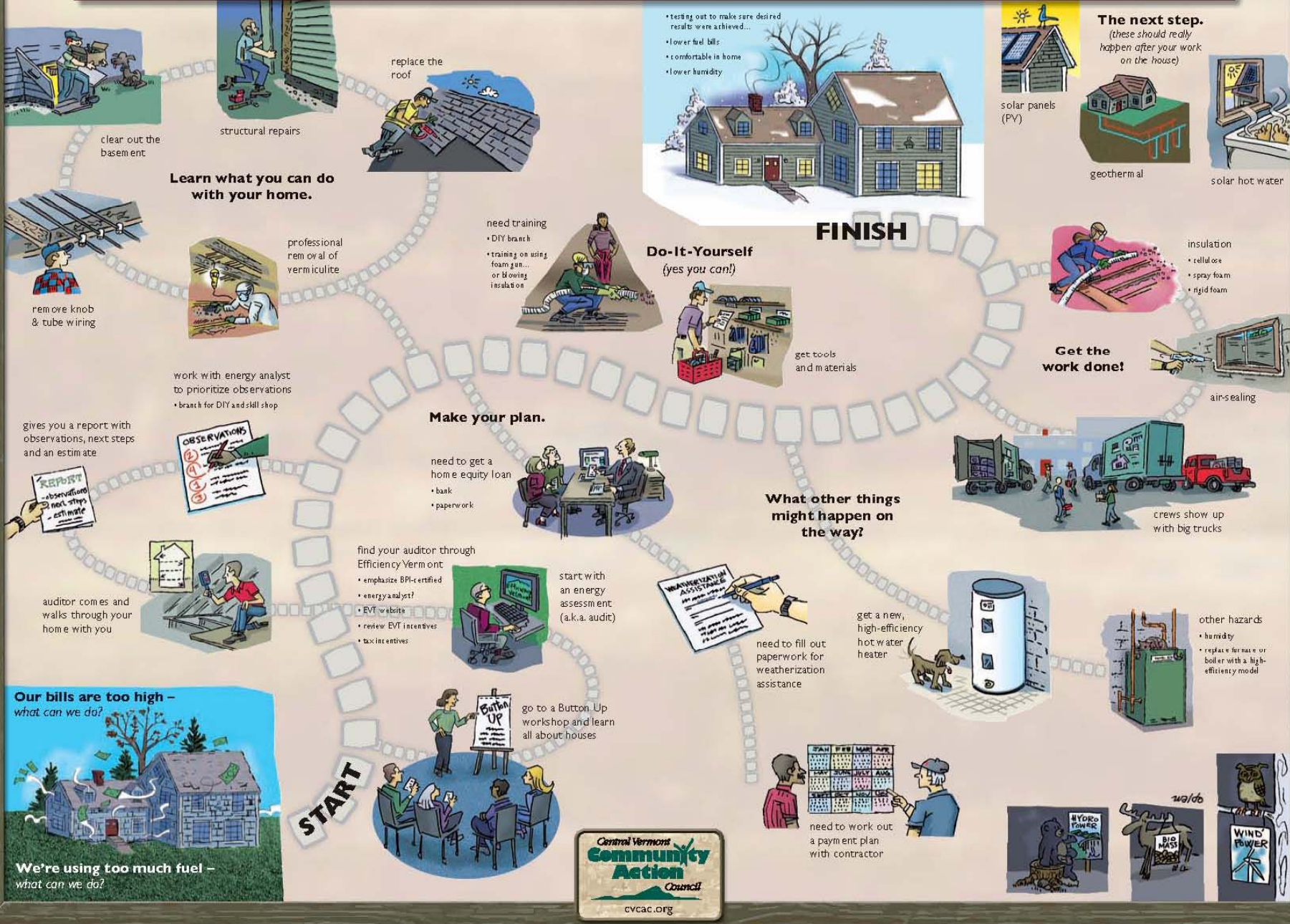
# Current Thermal Efficiency Programs

6

Sector	Amount
Residential – Market	\$4,395,000
Residential – Low Income	\$5,360,000
Multifamily	\$1,052,000
Commercial	\$1,555,000
<b>Total</b>	<b>\$12,362,000</b>

Note: Currently \$0 for Renewables, Energy Service Providers, Planning & Measurement, and Cross-Cutting

# The pathway to a comfortable, affordable Vermont home.



# Costs to Meet the Goals

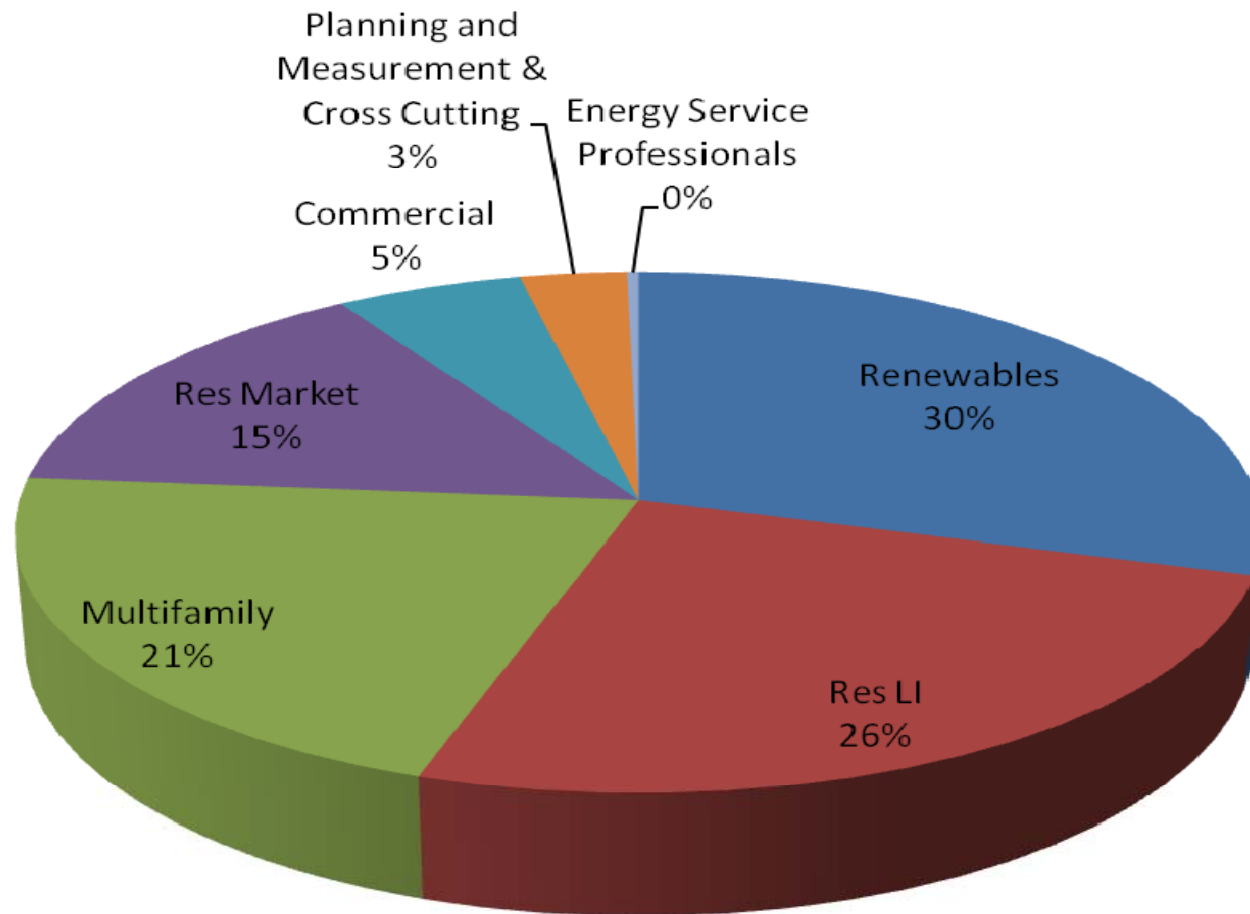
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Category	2014	2020	2014-2020
Participant costs (financed and self-funded)	\$ 56 mill.	\$135 mill.	<b>\$687 mill.</b>
Currently available program funding	\$ 12 mill.	\$13 mill.	<b>\$89 mill.</b>
New program funding needed	\$ 27 mill.	\$40 mill.	<b>\$267 mill.</b>
<b>Total</b>	<b>\$ 95 mill.</b>	<b>\$188 mill.</b>	<b>\$1.042 bill.</b>



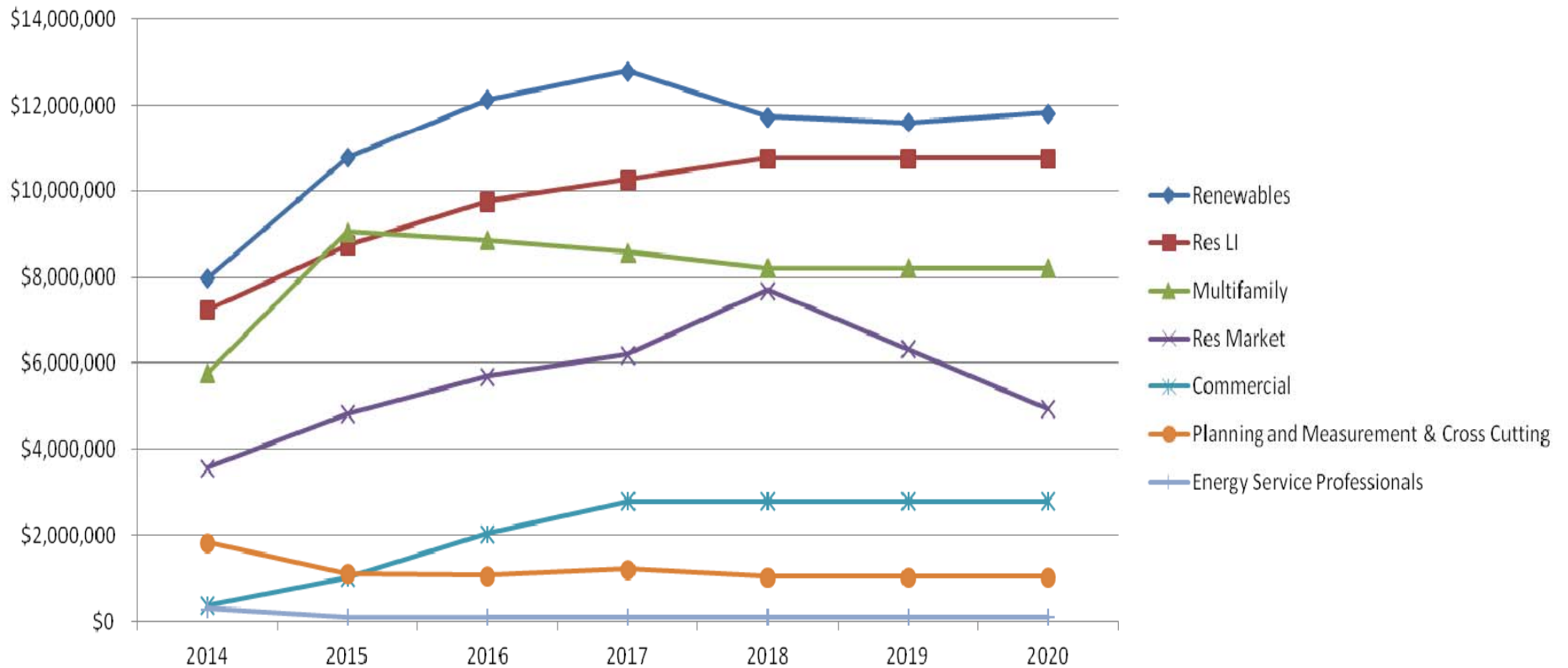
# New Program Funding by Sector

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# New Program Funding by Sector & Year

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# Financing Needs

11

- 2014: \$56 million

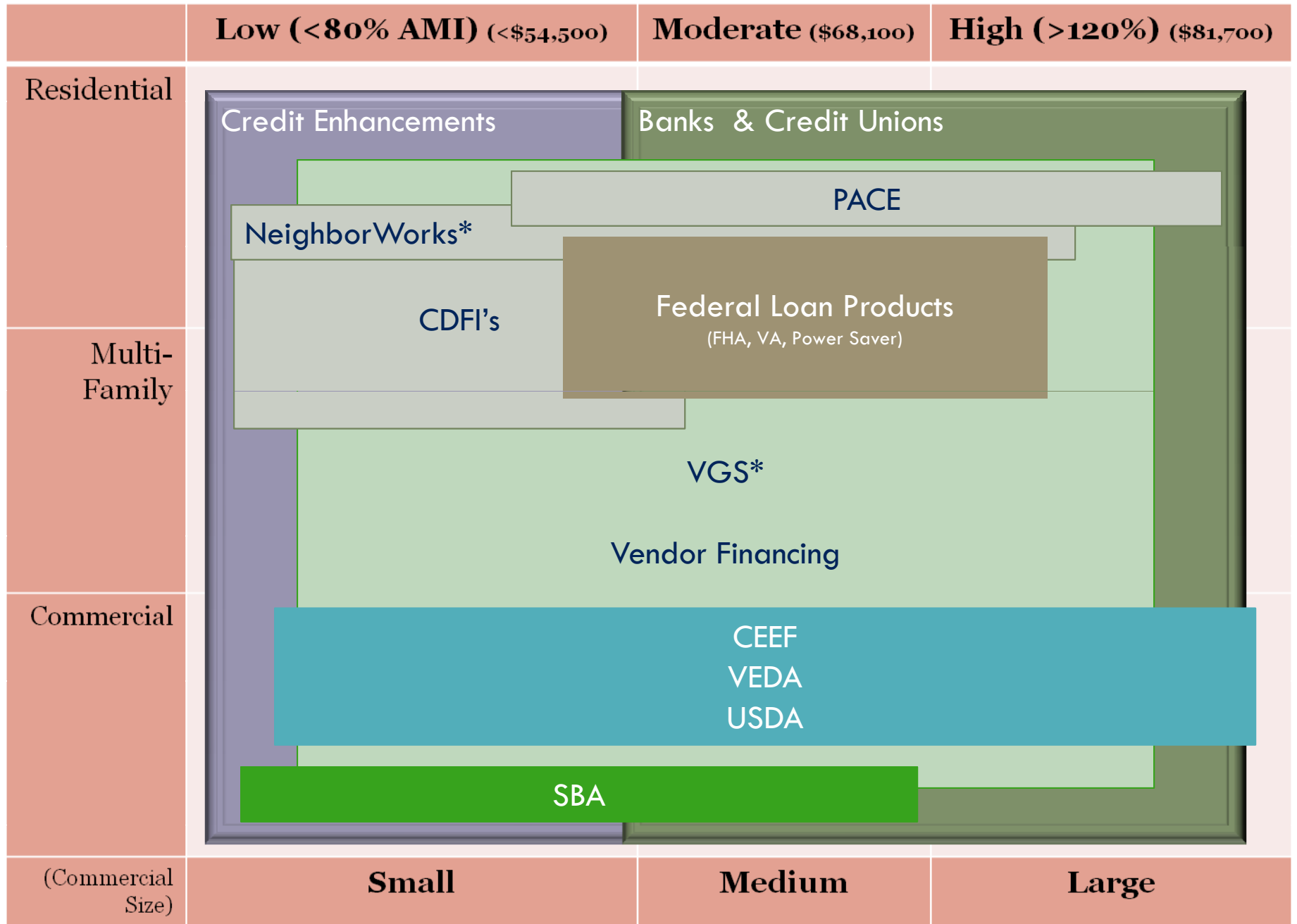
Ramping up to...

- 2020: \$135 million

For a total of...

- **\$687 million** over the 7 years

## Financing Options for Thermal Efficiency



\* Vermont Gas Systems and NeighborWorks of Western Vermont service only limited portions of the state

DRAFT v2	Low (<80% AMI) (<\$54,500)	Moderate (\$68,100)	High (>120% AMI) (>\$81,700)
<b>Residential</b>	<ul style="list-style-type: none"> <li>• Subsidized Loans (e.g., IRBD)</li> <li>• Secured Loans</li> <li>• PACE Program Loans</li> <li>• CDFI Loans</li> <li>• Vendor Financing (may be limited)</li> </ul>	<ul style="list-style-type: none"> <li>• Subsidized Loans (e.g., IRBD)</li> <li>• Secured &amp; Unsecured Conventional Loans</li> <li>• Home Mortgages</li> <li>• Energy Specific Loans</li> <li>• PACE Program Loans</li> <li>• Energy Efficient Mortgages</li> <li>• Power Saver Loans</li> <li>• CDFI Loans</li> <li>• Vendor Financing</li> </ul>	<ul style="list-style-type: none"> <li>• Subsidized Loans (e.g., IRBD)</li> <li>• Secured &amp; Unsecured Conventional Loans</li> <li>• Home Mortgages</li> <li>• Energy Specific Loans</li> <li>• PACE Program Loans</li> <li>• Energy Efficient Mortgages</li> <li>• Power Saver Loans</li> <li>• Vendor Financing</li> </ul>
<b>Multi-Family</b> (2+ units; Owners of rental properties but not renters)	<ul style="list-style-type: none"> <li>• Subsidized Loans (e.g., IRBD)</li> <li>• Secured Loans</li> <li>• CDFI Loans</li> <li>• Vendor Financing (may be limited)</li> <li>• Municipal Revolving Loan Funds</li> </ul>	<ul style="list-style-type: none"> <li>• Subsidized Loans (e.g., IRBD)</li> <li>• Secured &amp; Unsecured Conventional Loans</li> <li>• Energy Specific Loans</li> <li>• Energy Efficient Mortgages</li> <li>• Power Saver Loans</li> <li>• Municipal Revolving Loan Funds</li> <li>• CDFI Loans</li> <li>• Vendor Financing</li> <li>• Municipal Revolving Loan Funds</li> </ul>	<ul style="list-style-type: none"> <li>• Subsidized Loans (e.g., IRBD)</li> <li>• Secured &amp; Unsecured Conventional Loans</li> <li>• Energy Specific Loans</li> <li>• Energy Efficient Mortgages</li> <li>• Power Saver Loans</li> <li>• Municipal Revolving Loan Funds</li> <li>• CDFI Loans</li> <li>• Vendor Financing</li> <li>• Municipal Revolving Loan Funds</li> </ul>
<b>Commercial</b>	<ul style="list-style-type: none"> <li>• Subsidized Loans (e.g., IRBD)</li> <li>• Commercial Loans</li> <li>• VEDA Loans &amp; Guarantees</li> <li>• USDA Loan Guarantee Program</li> <li>• CDFI Loans</li> <li>• SBA Loan Guarantee Program</li> <li>• Vendor Financing</li> <li>• Leasing</li> <li>• Municipal Revolving Loan Funds</li> </ul>	<ul style="list-style-type: none"> <li>• Commercial Loans</li> <li>• VEDA Loans &amp; Guarantees</li> <li>• USDA Loan Guarantee Program</li> <li>• CDFI Loans</li> <li>• SBA Loan Guarantee Program</li> <li>• Vendor Financing</li> <li>• Leasing</li> <li>• Municipal Revolving Loan Funds</li> </ul>	<ul style="list-style-type: none"> <li>• Commercial Loans</li> <li>• VEDA Loans &amp; Guarantees</li> <li>• USDA Loan Guarantee Program</li> <li>• Energy Service Companies</li> <li>• Vendor Financing</li> <li>• Leasing</li> <li>• Municipal Revolving Loan Funds</li> <li>• Private Capital Markets (e.g., tax equity, bonding)</li> </ul>
(Commercial Size)	<b>Small</b>	<b>Medium</b>	<b>Large</b>

# Funding Needs

14

- 2014: \$27 million

Ramping up to...

- 2020: \$40 million

For a total of...

- **\$267 million** over the 7 years

# Funding Principles



1. Funding is sustainable and sufficient to meet the state's mandated goals.
2. Funding levels are also dynamic to ramp up and down over time as needed.
3. The level of funding balances short-term costs with the benefits of providing long-term affordability to all Vermonters; mechanisms will be put in place to minimize negative financial impacts on low income Vermonters.
4. Funding source, like program delivery, is equitable across non-electric fuels and by customer classes (residential, commercial, etc.); cross-subsidization between fuels and customer classes is minimized; equitable treatment for in-state and out-of-state fuel providers is addressed.
5. Mechanisms that are administratively efficient to create and implement, simple, and auditable are preferred.

# Funding Principles con't



6. The collection mechanism, sources, and uses of public funding are transparent.
7. Price signals should support state energy policy goals.
8. Support the vibrancy of Vermont communities and competitiveness of Vermont businesses.
9. Public funding is used in ways that leverage private sources of capital where possible, in order to get the best return on each public dollar invested.
10. Public funding is used only to the extent that it is needed to mobilize capital and meet private market shortcomings.
11. Protect existing stable taxes for the Low Income Weatherization Program.



# Funding Options

## □ High Preference

1. Energy Efficiency Excise Tax
2. Tax Credit

## □ Medium Preference

3. Gross Receipts Tax (GRT) Increase
4. Remove Sales Tax Exemption
5. Ceiling Mechanism
6. Energy Efficiency Resource Standard (EERS)

## □ Low Preference

7. Expand the Energy Efficiency Charge
8. Regional Greenhouse Gas Initiative (RGGI)
9. General Fund
10. Federal Funding

# Energy Efficiency Excise Tax

18

- Target fuels we want to reduce consumption of:
  - Fuel oil
  - Propane
  - Kerosene
  - Natural Gas
- Not including electricity; already covered
- Net out VGS efficiency budgets
- Small difference in terms of whether based on Btus or CO<sub>2</sub>
- Exempt biomass
- “Site” not “source” based

# Energy Efficiency Excise Tax

**Table 17. Effects of excise tax on raising funds, (MMBTU-based)**

Fuel	Unit	Tax / Unit		
		To Raise \$10 million	To Raise \$20 million	To Raise \$30 million
Fuel oil	gallon	\$0.041	\$0.081	\$0.122
Kerosene	gallon	\$0.040	\$0.080	\$0.120
Propane	gallon	\$0.027	\$0.054	\$0.081
Natural gas	therm	\$0.029	\$0.059	\$0.088

**Table 18. Effects of excise tax on raising funds (CO<sub>2</sub>-based)**

Fuel	Unit	Tax / Unit		
		To Raise \$10 million	To Raise \$20 million	To Raise \$30 million
Fuel oil	gallon	\$0.045	\$0.090	\$0.136
Kerosene	gallon	\$0.044	\$0.088	\$0.132
Propane	gallon	\$0.026	\$0.052	\$0.078
Natural gas	therm	\$0.024	\$0.048	\$0.071

# Energy Efficiency Tax Credits

20

- Bring private investment directly into projects or programs that support the EE goals
- Supplement other successful Vermont tax credit programs
  - ▣ Housing Tax Credit
  - ▣ Downtown Tax Credit
  - ▣ Federal tax credit sources
    - ▣ Low Income Housing Tax Credit
    - ▣ Reinvestment (Historic) Tax Credit
- A vehicle to support deeper energy retrofits and
- Biomass, solar and other renewables installations

# Gross Receipts Tax (GRT)

Amount	Raises
0.50%	\$ 7,900,000
1%	\$ 15,800,000
1.5%	\$ 23,700,000
2%	\$ 31,600,000

- Any changes to fund non-low income TETF efforts would need to be determined.
- Potential resistance to opening this discussion and possibly jeopardizing the primary low income funding source.
- Lack of transparency
- Lack of equity (because a significant share of the GRT is collected from sales of electricity)

# Remove Sales Tax Exemption

Fuel	Total Residential Sales	6% Sales Tax
Fuel Oil	\$ 276,410,999	\$ 16,584,659.91
Kerosene	\$ 27,672,035	\$ 1,660,322.11
Propane	\$ 184,213,974	\$ 11,052,838.43
Natural Gas	\$ 47,740,000	\$ 2,864,400.00
Electricity	\$ 299,531,067	\$ 17,971,864.01

- Without electricity: about \$30 million
- Exemption for electricity, fuel oil, natural gas, propane and other fuels sold for use in manufacturing – \$13.7 million
- Funds end up in General Fund and would need annual allocation

# “Ceiling Mechanism”

23

- Only impose this “excise-type” tax when fuel prices drop below a certain “ceiling” rate, and the increment is then captured
- For example: if the ceiling is set at \$4.25/gallon and market prices go down to \$4.00/gallon, then the customer continues to pay \$4.25, with the \$0.25 increment going to efficiency.
- Only works if fuel prices drop
- Revenues in any given year would be unpredictable and variable, which would make long-term planning and implementation very challenging

# EE Resource Standard

24

- Energy efficiency obligation on all suppliers of unregulated fuels
- Each fuel dealer would be required to achieve savings of X% per year (1% or 1.5% or some other required amount, with some ramping up over time) of their previous year's sales (weather normalized).
- This mechanism would give fuel dealers control and a means to change their business model
- Those that don't like it or don't want to get into the efficiency business (even through partnerships) could opt out of acquiring those savings by paying a fixed \$ per MMBtu of obligation to another entity to essentially acquire it for them.
- Needs some more thought and development



# Low Priority

25

- **Expand the Energy Efficiency Charge** on electricity to cover thermal efficiency.
  - ▣ Principles violated: cross-subsidies and price signals
- **RGGI:** Currently provides \$1-2 million/year
  - ▣ Unreliable, outside of Vermont's hands, unsustainable
- **General Fund:** Include funding in the annual budget as part of the regular legislative appropriation process.
  - ▣ Would not provide a reliable or sustainable source of funding.
- **Federal Funding:** Ask the federal government to fund Vermont's TETF efforts.
  - ▣ Would not provide a reliable or sustainable source of funding.

# Benefits

26

- \$1.4 billion in total benefits
- Each new public dollar secures \$6.18 in benefits
- Gross State Product increases \$1.47 for every \$1 invested
- \$1.90 of private funds leveraged for every \$1 of public funding
- Comfort, health and safety of Vermonters
- 6.8 million tons of CO<sub>2</sub>

# A Real Vermont Example

27

- Jim Hand of Dorset
- 1940s home using 1,100 gallons (\$4,000) of oil/year
- 2009 comprehensive retrofit: \$8,277
- Financed cost (5%, 7 years): \$1,430/year
- Actual savings: \$2,400/year
- **Positive Net Savings: \$970/year** (=2400-1430)

28

## Q&A

Richard Faesy

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