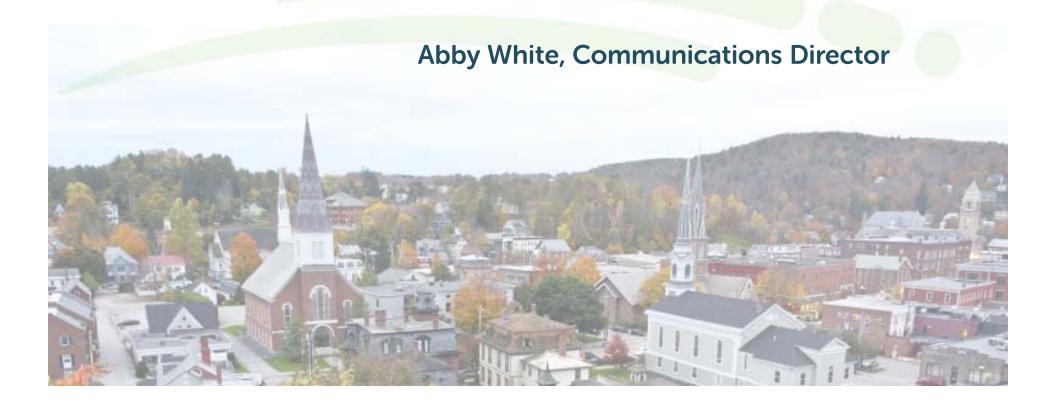


#### Weatherization: Impact and Innovation



#### **About Efficiency Vermont**

- Performance-based energy efficiency utility
- Founded in 2000
- Administered by VEIC, regulated by the PUC
- Provide electric and thermal efficiency services to homeowners and businesses





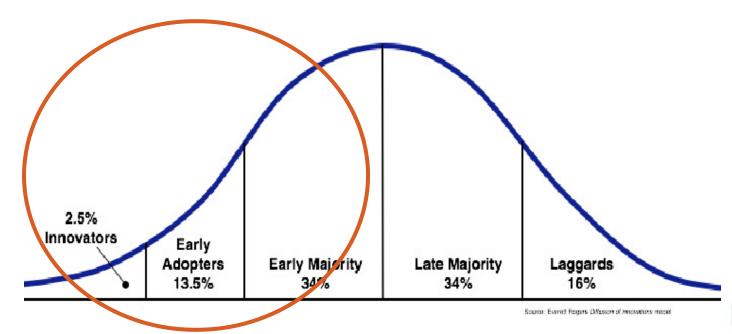




#### Our Role in the Market

#### Our role

- Scout for technologies
- Source products
- Develop supply chains
- Train contractors
- Generate consumer awareness
- Reduce the price of products and services
- Ensure access for most vulnerable



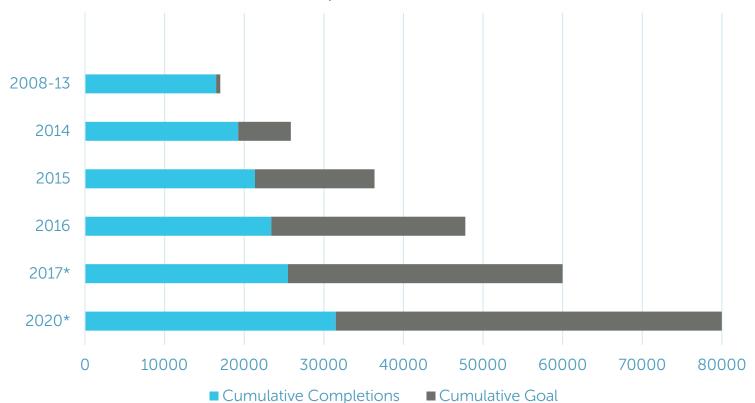


# Vermont's statewide weatherization system



### 80,000 by 2020





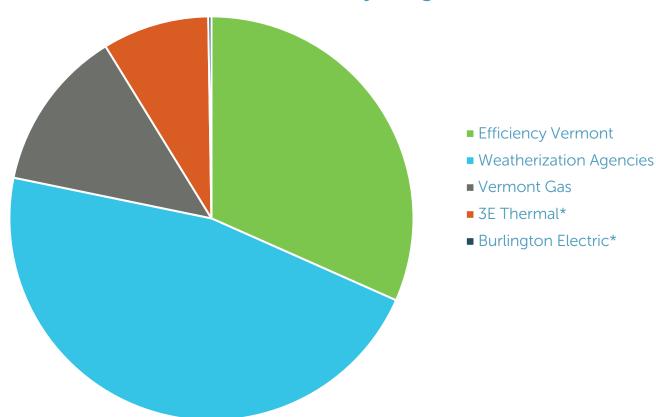
\* Projected

Source: 2016 Building Energy Goals Progress Report (PSD)



#### Vermont's Programs

Cumulative Units Weatherized, by Program (2008-2016)



Source: 2016 Building Energy Goals Progress Report (PSD)



#### **How Programs Interact**

< 80% AMI > 100% AMI

WAPs Singlefamily

3E Thermal Multi-family

Efficiency Vermont

Vermont Gas Systems Burlingtor Electric Dept Other utilities through

3E thermal: \$1.1 M WAPs: free appliances

Management of Efficiency Excellence Network

Management of Heat Saver Loan

Marketing and customer engagement

Project support and quality assurance

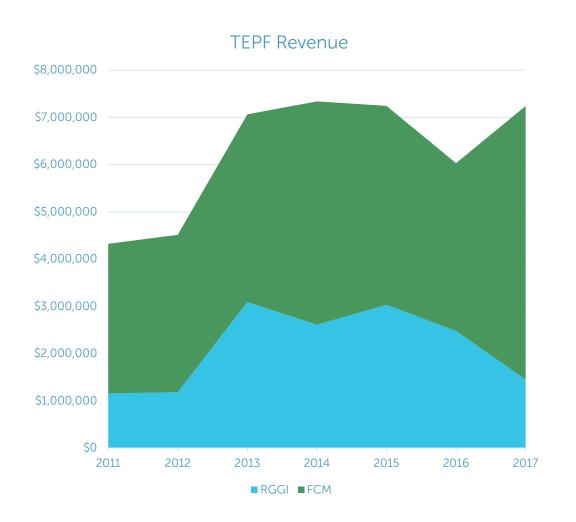
Tracking, verification, and reporting of results



#### Budget, impact, and trends



#### Thermal Budget and Impact



Total lifetime value of projects 2009-2018

- 814,388 MMBTU
- \$209,153,979



#### 2018 Weatherization Budget & Impact

Program	Investments	Projects	Savings
Low-income multi-family 3E Thermal	\$1.1 M	~200	9,357 MMBTU
Business	\$4,400	2	67 MMBTU
Moderate-income weatherization	\$1 M	800	8,898 MMBTU
Heat Saver Loan	\$218,000 total \$76,000 for Wx (35%)	175 loans	
Totals	\$2.3 M (\$132/MMBTU)		17,322 MMBTU



#### Moderate-income Weatherization

- 800 projects/year
- 50 participating contractors
- Project costs: \$7,000-\$10,000
- Average incentive: \$1,200
  - Based on air-leakage reduction



"As a new home owner in need of guidance, I found incredible value in what Efficiency Vermont provided."

Kelsey Burns Guilford, VT Savings: \$400/yr



#### Health Impacts of Weatherization

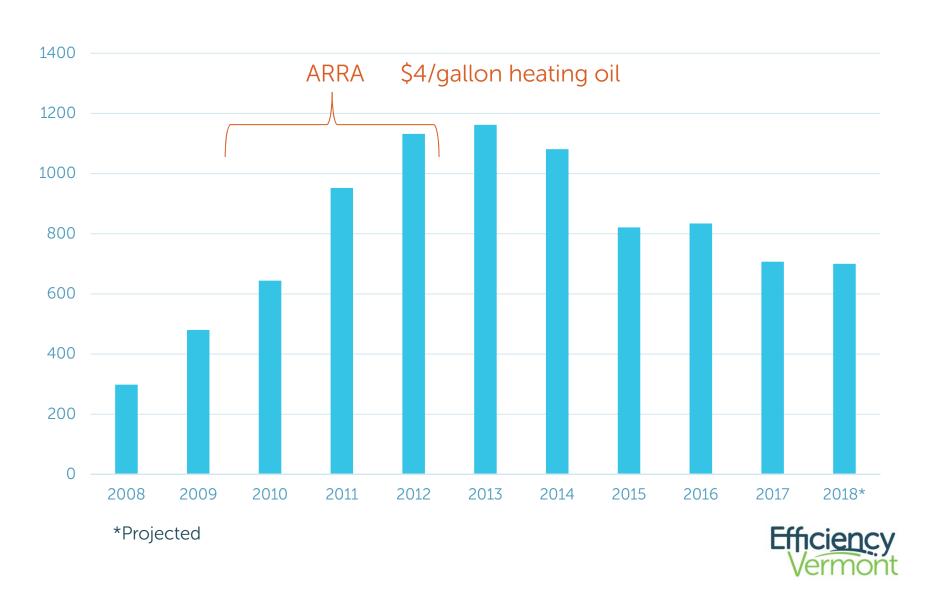
## The 10-year benefit per household is almost 3x the initial cost

Benefit category	Primary beneficiary	First-year benefit	10-year benefit
Thermal and electric energy cost savings	Household	\$1,174	\$11,740
Reduced impacts of asthma, cold, and heat*	Household	\$276	\$2,762
Reduced fine particulate emissions	Public	\$1,026	\$10,255
Total	Household + public	\$2,476	\$24,757

<sup>\*</sup>More benefits are expected but could not be quantified, such as better mental and social health, fewer accidental injuries, and increased productivity.



#### **Project Completions**



#### Customer needs and services



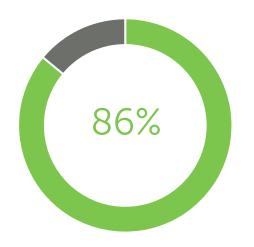
#### Barriers to engagement

- Cost
- Contractor availability
- Awareness of benefits
- Complexity of weatherization



#### **Motivations**

Interested in making their home more efficient



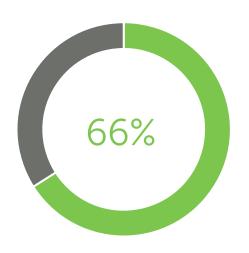
Reason to take on a given improvement

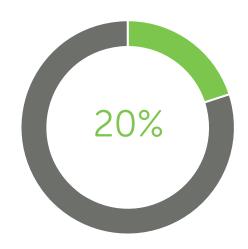




#### **Motivations**

"I have improved some or most things that I can" Have taken advantage of a program or rebate





Many people do it themselves and aren't aware there are services and incentives to help



#### What's new for 2019?

Comprehensiveness

Healthy Homes

WAP pilot

Net Zero pilot

Home Performance: income-based incentives

Attic and Basement Rebates

Do-it-yourself

Home Energy Visits

Income level



#### **2019 Weatherization Goals**

Services	Budgets	Savings
Low-income multi family (3E Thermal)	\$1.1m	6840 mmBtu
Commercial buildings	\$50,000	650 mmBtu
Multifamily	\$11,000	230 mmBtu
Moderate Income	\$1.9m	7,000 mmBtu
Attic & Basement	\$250,000	4,000 mmBtu
DIY	\$10,000	
Low-income Pilots	\$85,000	1,713 mmBtu
Heat Saver Loan	\$700,000	
Totals	\$4.1m (\$200/mmBtu)	20,433 mmBtu



## Thank you!

