Fixing Existing Homes

Part 2

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Part 2

- Physical and technical challenges
- Sales and marketing challenges
- Some comments on economics
- Group discussion
  - How do we improve quality?
  - How do we increase quantity?

Fixing existing homes:

- Is messy and dirty, but you have to be clean
- Seems very invasive to the customer
- Is more complicated than new construction
- Often requires diagnostic problem-solving
- Requires good interactions with many different customers
- Generally consists of small projects, so you have to sell several
- Usually doesn’t allow you to build anything
- Don’t get no respect

Fixing existing homes:

- Can be rewarding if you like to solve puzzles and help people
- Is a good way to do your part in fighting climate change
- Involves making people more comfortable, healthy and happy
- Is something that you can sell in good conscience, it’s in your customer’s best interest
- Is well-suited to small owner-operated companies
- Helps preserve our housing stock
- Might be a pretty good business opportunity in Vermont right now

Economics

- The fallacy of payback
- Let’s add up the benefits for a change
- It’s not about whether the money gets spent
- Shooting ourselves in the foot with half-assed measures

What's the payback?

Payback is the amount of time needed to generate savings equal to the initial investment.

- Common way of looking at energy investments
- Almost never used for non-energy investments

What's an acceptable payback?

- 2 years?
- 5 years?
- 10 years?

Annual rate of return

The annual benefit, as a percentage of the original investment

- Common way of looking at various investments

What's an acceptable rate of return?

- Current savings rate?
- Current Certificate of Deposit rate?
- Current Savings Bond rate?

If you were offered a reasonably safe investment that generated a 5% tax-free return, would you be interested?

How about 10%?

A 20-year payback is a 5% rate of return

A 10-year payback is a 10% rate of return

Major energy retrofits usually have more than a 5% rate of return, and often over 10%

And it’s tax free for homeowners

More about payback

- We don’t use that unit of measure for non-efficiency things, so it’s hard for homeowners to compare to other investment options
- Payback doesn’t consider lifetime, so it inevitably steers you toward short-term measures
- The public has been conditioned to expect unreasonably short paybacks
- So let’s not talk about payback
- Let’s talk about a tax-free rate of return. We can deliver a good one

It’s not just about economics

- Comfort
- Health & safety
- Building durability
- Protection from rising fuel costs
- Resale value
- Carbon

Let’s put a value on them

• Comfort	$
• Health & safety	$
• Building durability	$
• Protection from rising fuel costs	$
• Resale value	$
• Carbon	$
• Total	$$?

Being timid hurts the long-term effort

- Once something is sort of OK, it probably won't be changed, so that's not where we want to stop
- If this year's budget won't accommodate doing both the attic and the basement well, it's better to do one well than to do a skimpy job on both. We can do the other one later.
- We don't want to be redoing the same surfaces in a decade
- Insulating the basement walls to R-5 may do more harm than good
- It's easy to find people who later wish they had insulated more, but it's hard to find someone who wishes they had insulated less.

It’s not about whether the money gets spent

- Homeowners are going to have to pay to be comfortable, one way or another
- They might be thinking it’s a choice of whether to spend the money, but it’s really a choice between spending it on fuel and getting nothing else, or spending it on improvements that pay for themselves and ending up more comfortable.
- It’s worth noting that most of the money spent on fuel leaves the state and most of the money spent on improvements stays more local or regional

An insufficient analysis

You can do complicated number crunching, but lots of things are unknown

- What's the actual savings going to be?
- What will energy cost in the future?
- How much will I get back if I sell the house?
- What's the comfort worth?
- What are the other non-energy benefits worth?
- What's the value of the environmental benefit?

Weatherization Assistance Program

- Income limits (other counties may be different)

HOUSEHOLD SIZE	ADDISON COUNTY	CHITTENDEN, FRANKLIN, GRAND ISLE COUNTIES
1	$44,520.00	$51,926.00
2	$50,880.00	$58,624.00
3	$57,240.00	$65,952.00
4	$63,600.00	$73,280.00
5	$68,688.00	$79,142.40
6	$73,776.00	$84,004.80
7	$78,864.00	$90,867.20
8	$83,952.00	$96,729.60

Home Performance with ENERGY STAR

- Participating certified contractors
- Standards, quality assurance system
- Current incentives:
  - ½ of project cost, up to $2000 for a $4000 project
  - Plus moderate income bonus

Moderate Income Bonus

Homeowners whose annual household income falls below the following levels qualify for up to an additional $2,000 back.

Number of People in Household	Household Income Limit: Chittenden, Franklin, Grand Isle counties	Household Income Limit: All other Vermont counties
1	$77,000	$66,800
2	$88,000	$76,400
3	$99,000	$85,800
4	$110,000	$95,400
5	$120,680	$103,000
6	$138,360	$110,600
7	$156,040	$118,200
8	$173,720	$126,000

Home Energy Loan

Interest Rates

Household income*	Loan term: 5 years or less	Loan term: between 5 and 10 years	Loan term: between 10 and 15 years
Below $60,000	0%	1.99%	2.99%
Between $60,001 - $90,000	0%	2.99%	3.99%
Over $90,000	4.99%	5.99%	6.99%

*Income guidelines apply.

Doing a $10,000 project for $2000

- Assumptions:
  - Household income is average
  - Project expected to save 20% of $2500 heating bill ($500/yr)
- Contractor bills $10,000
- Efficiency Vermont chips in $4000
- Customer pays $2000
- Customer finances the remaining $4K at 0% for 5 years
  - Payment is $67/ month, or $800/yr
  - Savings is $500/yr, so net cost is $300/yr

“How much will the project cost?”

- “It’s free”
- “No, really. It’s free”
- “It pays for itself”
- “If you put money down, you get it back”
- “If you don’t want to put any or much money down, we can finance it so that the savings make the loan payments. The interest rate is really low, maybe zero. So it’s free”
- “Yeah, I’m serious. It’s free”

How do we improve the quality or scope of our weatherization projects?

How do we increase the quantity of houses that get weatherized?

One idea…….

- Commit to funding the Weatherization Assistance Program sufficient to serve all eligible households in Vermont
- It needs to be RELIABLE, STEADY funding over time, so that agencies can invest in building capacity

One idea…….

- Find a way to encourage more in-depth projects
- Average savings of 20% or so is fine, but we're going to need a bunch of projects that save 50% or more
- Opportunities at siding/roofing projects?
- Longer-term financing might help

If you're a home energy pro, you should check out

Homeenergypros.org

If you search under "Keefe" you'll find a short video you might like called "A Climate Report from the Field"