



**The Massachusetts New Homes with
ENERGY STAR[®] Program
Major Renovations Pilot Evaluation:
Preliminary Report on Non-Participant
Interviews**

FINAL REPORT

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Submitted to:

**The Massachusetts New Homes with ENERGY STAR
Program**

Joint Management Committee

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Executive Summary

The purpose of Major Renovations Pilot (Pilot), introduced in 2009, is to address the gap between the Home Energy Assessment Program for existing homes and the Massachusetts New Homes with ENERGY STAR[®] Program. For new addition projects 500 square feet or larger that do not involve a gut rehabilitation of the existing home and where the homeowner is not interested in making the upgrades to the existing home required for participation in the Deep Energy Retrofit Pilot, the Major Renovations Pilot provides an option for homeowners to address both the existing part of their home and the new addition. The Program's Sponsors believe substantial energy savings can be achieved cost-effectively by offering these types of construction projects ineligible for ENERGY STAR qualification the same services and support available to builders of ENERGY STAR-qualified homes.

This report presents preliminary findings from eight interviews. Seven homeowners and one builder who had projects eligible to participate in the Pilot and considered enrolling in the Pilot, but decided not to enroll, were interviewed. Over the next few months interviews will be conducted with homeowners, architects, builders and HERS raters involved with completed projects. To date, 35 projects have enrolled in the Pilot. The Pilot database shows that three projects have gone through the entire participation process, which includes a HERS rating for the finished home, including the addition. The owners of two of the completed projects have been interviewed; one was very satisfied and one was satisfied with their experience participating in the Major Renovations Pilot. A final report on the Pilot will be issued after interviews covering at least ten completed projects are conducted.

Preliminary Findings

Learning about the Pilot: Most interviewees, seven of the eight, mention Mass Save when asked how they learned about the Pilot. One interviewee learned about the Pilot at a home center where a presentation on the Pilot had been made. Interviewees' projects were in various stages when they learned about the Pilot. Three interviewees were still in the planning stage and three had already started construction. One interviewee had plans and was in the process of bidding out work and one was working with a builder, but had not started construction.

HERS Raters: Only three of the eight interviewees report talking with a HERS rater about their project. Only one of these interviewees found talking to a HERS rater helpful.

Importance of Energy Efficiency: All eight interviewees say that when they started planning their additions, it was important to them to make sure that their addition would be energy efficient. Six of the eight interviewees say that when they started planning their addition they also planned on upgrading the energy efficiency of their existing home or had recently done so.

Architects: Only three homeowners say they are working with an architect.

Decision to Not Enroll: Overall, potential participants' decision to not enroll in the Pilot came down to dollars and cents. They felt that what they would likely have to pay for a HERS rater's services compared to what they would likely get back from the Pilot did not make participating in the Pilot cost-effective.

Other Pilots and Programs: Only three interviewees say they were told about other pilots or programs their project might be eligible to participate in, though several say they are aware of other programs. Only three interviewees say they considered participating in other programs. The only other option considered by two of these interviewees was having a Mass Save Energy Assessment. The third interviewee considered all options: Mass Save Energy Assessment, Deep Energy Retrofit, ENERGY STAR home gut rehab and Heat Loan Program.

Satisfaction: Interviewees were asked how satisfied they were with the ability of the people they talked to about the Pilot to explain the Pilot and the incentives available, describe other programs their project might qualify for and answer any questions they had. Four interviewees were satisfied and four were dissatisfied. One homeowner was somewhat dissatisfied only because he was not told about other programs his project might have been eligible for. Of the other three homeowners who were dissatisfied, one is a builder/architect, one is a commercial builder and one designed his addition. All three planned very energy-efficient additions and had either recently completed or were planning extensive efficiency upgrades to their existing homes. They were already doing everything required by the Pilot and felt they did not get clear information about what incentives they would be eligible for or how much it would cost them to hire a HERS rater.

Suggestions: Interviewees were asked if they had suggestions for ways to make participation in the Pilot more user-friendly for homeowners. Suggestions focus on providing clearer descriptions of what the Pilot offers and the cost of participating in the Pilot, especially the cost of hiring a HERS rater.

Conclusions and Recommendations

As this preliminary report is based on only eight interviews with homeowners and a builder who considered enrolling projects in the Pilot, but decided not to, it is premature to discuss conclusive findings and recommendations. However, it is reasonable to say that the interviewed homeowners and builder are clearly committed to making sure their projects are energy efficient, but did not think that participating in the Pilot would be cost-effective.

1 Interview Sample

Interviews were conducted with seven homeowners and one builder who had eligible projects and considered participating in the Pilot, but decided not to participate. Seven of the interviewees are the owners of the homes where the addition is being built and one is a builder who inquired about participating in the Pilot for a client's addition. Six interviews were conducted in October and two in December, 2010. Interviews ranged in length from 14 to 23 minutes.

Sample demographics are summarized in Table 1-1. As shown, homeowners report living from one and a half months to 40 years in the home where they are building an addition. Of the five homeowners who provided information on their education, age and/or income, all are college graduates; two have graduate degrees. Three owners are in the 35 to 44 age group and report 2010 household income of at least \$100,000. One interviewee falls in the 45 to 54 age group with 2010 income of \$50,000 to \$74,999. One interviewee falls in the 55 to 64 age group; this interviewee chose not to provide income information.

Table 1-1: Sample Demographics

| Non-Participant Identifier | Town | Years in Home | Number of Occupants | Highest Level of Education Completed | Age Group | Total Household 2010 Pre-Tax Income |
|----------------------------|-----------------|---------------|---------------------|--------------------------------------|-------------|-------------------------------------|
| Builder | NA | NA | NA | NA | NA | NA |
| Owner 1 | Marston's Mills | 5 | 4 | College Graduate | 35 to 44 | \$100,000 to \$149,999 |
| Owner 2 | New Bedford | 30 | 5 | College Graduate | 45 to 54 | \$50,000 to \$74,999 |
| Owner 3 | Yarmouth | 40 | 2 | No Response | No Response | No Response |
| Owner 4 | Falmouth | 20 | 2 | Graduate Degree | 55 to 64 | No Response |
| Owner 5 | Franklin | 6 | No Response | No Response | No Response | No Response |
| Owner 6 | Chelmsford | 1 ½ months | 4 | Graduate Degree | 35 to 44 | \$150,000 or more |
| Owner 7 | East Longmeadow | 4 | 2 | College Graduate | 35 to 44 | \$150,000 or more |

2 How Interviewees Learned About the Pilot

Most interviewees, seven of the eight, mention Mass Save when asked how they learned about the Pilot. One interviewee learned about the Pilot at a home center where a presentation on the Pilot had been made and hard-copy informational materials left behind. A staff member at the home center handed this interviewee the informational materials on the Pilot along with the presenter's contact information and said, *"Your addition is greater than 500 square feet, so this is something you might be interested in."*

Of the seven interviewees who mentioned Mass Save, only two went directly to the Mass Save website or called the 1-800 Mass Save number. One interviewee called his utility and was referred to Mass Save. The remaining four interviewees started out by visiting their gas or electric utility website for general information on energy efficiency or information on ENERGY STAR furnace and appliance rebates.

Interviewees' projects were in various stages when they learned about the Pilot. Three interviewees were still in the planning stage and three had already started construction. One interviewee had plans and was in the process of bidding out work and one was working with a builder, but had not started construction.

Three interviewees say they were told about other pilots or programs their project might be eligible to participate in. One interviewee says he was told about the Mass Save Home Energy Assessment Program. One interviewee called her gas and electric utilities and was told about the Mass Save Home Energy Assessment Program, the Deep Energy Retrofit Pilot and the New Homes with ENERGY STAR Program for gut rehabs. She was also told that the only program her project qualified for was the Major Renovations Pilot. One interviewee appears to have first learned about other programs by visiting their websites and following up with calls to get more information. This interviewee has had a Mass Save audit and is participating in the zero interest HEAT Loan Program.

Five interviewees say they were not told about other pilots or programs their project might be eligible to participate in. Three of these interviewees say no one they talked to told them about other pilots or programs; one of these had already had a Mass Save audit and one was told that the only program his project qualified for was the Pilot. One interviewee had a Mass Save audit some time ago and had researched the Deep Energy Retrofit Pilot and the New Homes with ENERGY STAR gut-rehab options on his own and determined that they were not appropriate for his project. One interviewee, the builder, was already aware of Mass Save Home Energy Assessments and the Deep Energy Retrofit Pilot.

3 Talking with a HERS Rater

Only three interviewees talked with HERS raters about their projects. Only one of these interviewees found talking to a HERS rater helpful. This interviewee says the HERS rater he talked with was clearly knowledgeable and made some good suggestions, which he incorporated in his addition plans. Specifically, the HERS rater was able to address questions about open-versus closed-cell foam insulation and where to spray the insulation. This interviewee says he would have liked to talk to the HERS rater more and would have liked to have him come to his home, but that the rebates available from the Pilot, given his circumstances, were only 15% and that by the time he spent money on having the HERS rater draw plans for the existing home and conduct the required testing and analysis it would not be cost effective.

One interviewee who did not find talking to the HERS rater helpful says the only thing the HERS rater told him was that he had to use blown in ceiling insulation and have 2x6 walls, which he was already doing. This interviewee says that he was also told that the cost of the HERS rater's services would be \$800 to \$1,100 and that the Pilot would reimburse only \$500¹ of that.

The other interviewee who did not find talking to the HERS rater helpful had already had a Mass Save audit and a free blower door test performed as part of considering participating in the Deep Energy Retrofit Pilot. By the time he talked to a HERS rater about the Major Renovations Pilot he felt he already had a good understanding of what he needed to do and did not need to hire a HERS rater. The HERS rater explained that participating in the Pilot required that a HERS rater be hired.

¹ The Pilot pays \$1,050 toward HERS rater fees.

4 Importance of Being Energy Efficient

4.1 Importance of Addition Being Energy Efficient

All eight interviewees say that when they started planning their additions, it was important to them to make sure that they would be energy efficient. The builder working with a client said he is always looking to do the best he can with the thermal envelope and level of insulation. He exceeds code-required insulation levels, stresses air sealing, builds a tight home and installs Rinnai tankless water heaters. When the interviewed homeowners were asked what energy-efficient construction practices and/or equipment choices they were particularly concerned about, or interested in, the most frequent response was high insulation levels. They also mentioned:

- Having 2x6 walls
- A thermal barrier on the outside of the house
- Using spray foam insulation
- Low air infiltration
- Heat conservation
- High-efficiency HVAC systems—one homeowner looked into geothermal heating and cooling
- Efficient water heaters
- Energy-efficient windows

4.2 Plans to Upgrade Energy Efficiency of Existing Home

Six of the eight interviewees say that when they started planning their addition they also planned on upgrading the energy efficiency of their existing home or had recently done so. The builder working for a client says he originally planned on upgrading the energy efficiency of the areas he was remodeling, not the whole house; upgrading the energy efficiency of the entire existing home came into play when the Mass Save Home Energy Assessment audit was done. One homeowner planned on installing a new heating system in his existing home. Another homeowner planned on only upgrading his heating system until he learned about the Deep Energy Retrofit program, which got him to think about adding insulation.

Another homeowner, who is a commercial builder, installed all new windows, upgraded ceiling insulation levels to R-44 in the older part of his home, upgraded walls to 2x6, used blown-in and foam insulation, replaced the roof and wrapped the bottom plate and foundation with high-tech products below the slab the year before he started his addition. He says:

“My basement will never go below 50 degrees year round. I planned to have one nice house requiring minimal maintenance and if I did everything at the same time it would all clock in at the same time, even though the roof wasn't leaking and probably didn't need replacing.”

Another homeowner is gutting his existing home and installing new siding, insulation, heating and air conditioning systems, and improving airflow throughout the home. This homeowner is an engineer who designed the addition for his home.

Another homeowner, who converted his vacation home to his year round retirement home, had already made many energy-efficiency upgrades to the existing home. He added insulation and replaced several windows. He had two 2x4 framed end walls that he insulated with spray foam, and then installed an extra one inch of polyiso insulation on the inside because he did not want to rip off the exterior siding. On the new structure, he has 2x6 walls with a quarter inch of thin pink rigid foam board on the outside to create a thermal break.

Of the two homeowners who say they did not consider upgrading the energy efficiency of their existing home when they started planning their addition, one had an energy audit two or three years earlier. The other homeowner, who is a builder and architect, says upgrading the energy efficiency of his existing home did not cross his mind when planning the addition. However, he plans on upgrading the heating system in his existing home and would like to spray Icynene insulation in his attic. He says that other than that the house is in pretty good shape. Neither of these homeowners says they decided to upgrade the energy efficiency of their existing home because of what they learned while considering participating in Pilot.

5 Choosing an Architect and/or Builder

The seven interviewed homeowners were asked how they went about choosing an architect and/or builder for their addition. Only three homeowners say they are working with an architect; one of these is an architect who designed his addition. Two homeowners say they hired an architect to help them plan their addition. One relied on word-of-mouth recommendations and then called several architects to get estimates. The other hired an architect who was a customer at his auto shop.

Four interviewees say they did not work with an architect. One simply says he did not work with an architect. One says he used a draftsman because he was just adding a small section. One says he had some knowledge about design and sketched the addition himself. One, who is an engineer, hired an architect but did not like his work and decided to design the addition himself.

When asked how they went about choosing a builder for their addition, one homeowner is a builder and is building his addition, and one is acting as the general contractor for his addition. Another is a commercial builder who is working with framers he has worked with before on commercial projects. He says, *“They wanted to come and work with me. They are people I have worked with for 20 years.”* One relied on word-of-mouth recommendations and then called several builders to get estimates. One hired a builder recommended by a friend.

The homeowner who converted his vacation home to a year round retirement home says he chose a builder based on reputation and price. He wanted a builder who would do the job and do it well. He says that he talked with three or four builders and that none of them were well informed about ENERGY STAR or LEED (Leadership in Energy and Environmental Design) homes. He says that when he talked to builders about putting foam board on the exterior or interior walls most said they would do it, but they do not tend to do it and they do not recommend doing it.

The homeowner who designed his addition and is gutting his existing home said, *“I had 11 different contractors come out to my house, and if I didn't like them I didn't deal with them. I finally found one I liked.”*

6 Decision to Not Enroll in the Pilot

Overall, potential participants' decision to not enroll in the Pilot came down to dollars and cents. As shown in their responses, listed below, they felt that what they would likely have to pay for a HERS rater's services compared to what they would likely get back from the Pilot did not make participating in the Pilot cost-effective.

Builder: *"I compared the cost/fee structure of Mass Save vs. the Major Renovations Pilot. To start with, Mass Save does an evaluation for free, but the Major Renovations Pilot requires you to hire a HERS rater. It seemed like there would be a bigger payback from Mass Save, up to 75% for insulation in the existing house whereas the Major Renovations Pilot offered 15% of upgrades over code in the new structure and, maybe, 15% in the existing structure as well. It seemed like the owner would make out better on both of those counts, the free evaluation assessment and the payback, in Mass Save."* (This is a builder who inquired about the Pilot for an addition he was building for a client.)

Owner 1: *"The Pilot would charge \$1,000 out of my pocket to come out, and then you're at the mercy of what they decide to reimburse you; they could reimburse me \$950 and I would be out \$50. So, financially it didn't make sense to do that."* (This homeowner is building a 500 square foot addition and planning to reinsulate the existing home.)

Owner 2: This homeowner thought the Pilot sounded too cumbersome. It seemed to him that he would need to have an energy audit that he would have to pay for without knowing ahead of time how much it would cost. It sounded like it was going to cost a few hundred dollars, if not more, and it was questionable whether or not he was going to get anything out of it. He felt that for him to spend \$800 or \$900 dollars for a HERS rater's services to, maybe, get \$1,000 back was not worth it. In his words, *"It's an addition, and it just seems like, I don't know, an expense that I perhaps wasn't going to get that much of a benefit out of."* (This homeowner is a builder and architect. The addition is 1,500 square feet.)

Owner 3: *"It was just going to slow me and my process down. They said they needed to watch me doing this, and I've built enough buildings that I didn't want to get into a project like that at my own house where I was waiting on engineers and architects and inspectors when I already knew what to do. It would have been easier to deal with if I didn't know what to do. Were it not so disjointed I probably would have stayed with it. I was already doing more than you all were even offering or suggesting."* (This homeowner is a builder. A 510 square foot addition is being added to an 880 square foot home.)

Owner 4: This homeowner's understanding was that the Pilot would not cover anything more than 15% because he had already done as much as he could to the existing house. He felt that by the time he spent \$1,500 or \$2,000 for a HERS rater it would not be worthwhile—it would be a break-even proposition. He considers himself pretty knowledgeable about energy efficiency for a homeowner and says he was definitely intent on enrolling in the Pilot. He thinks the Pilot is well intended, but the average person would not go through the process. He said, *"Basically, your*

program was set up for people who hadn't worked on their existing house. So for somebody like me, it looked like it didn't fit." (This project involves adding 700 square feet to an existing 1,600 square foot home. The addition will attach a large barn-like garage to the upstairs of the existing home. Improvements have already been made to the existing home. The homeowner has owned the home for 20 years. It was a vacation home that was used four months each year. Now it is his retirement home and he is living there year round.)

Owner 5: *"We were told we weren't eligible. Someone came out to the house to do some kind of test to find out about air infiltration. I don't remember what the test was; as soon as they told me we were ineligible it went out of my head."* (This project was too far along to enroll in the Pilot. The roof was already ripped off the existing house and it was partially gutted. The foundation for the addition was poured.)

Owner 6: *"I pretty much know what I need to do to improve my home from the Mass Save people, but to participate in the Pilot I would have to hire a HERS rater. And the money, the \$2,000 I would get, pays for those people [HERS raters], when I already know what to do. It doesn't benefit me. It also delays things more because I would have to wait and schedule people and get reimbursed later. I was in a hurry to get going and couldn't drag it out anymore."* (This project was too far to along to participate in the Pilot. The homeowner had already had a Mass Save audit and a Deep Energy Retrofit assessment.)

Owner 7: *"There was no guarantee I was going to get more than \$1,100. It doesn't make sense to spend \$1,100 for a possibility of getting \$2,000 back."* (This homeowner is building an addition and pretty much gutting his existing home—new siding, new insulation, rewiring, new heating and air conditioning units, and improving airflow. He remembers that someone he talked with about the Pilot saying that what he was planning to do was pretty efficient, but does not remember talking with a HERS rater.)

7 Participating in Other Programs

Only three interviewees say they considered participating in other programs. The only other option considered by two of these interviewees was having a Mass Save Home Energy Assessment. The third interviewee considered all options: Mass Save Home Energy Assessment, Deep Energy Retrofit, ENERGY STAR home gut rehab and Heat Loan Program.

One of the interviewees who considered the Mass Save Home Energy Assessment is the builder working for a client. This builder recommended his client have the Mass Save Home Energy Assessment because the incentives are higher than those offered in the Pilot; the audit is free and there is an incentive of up to 75% of the cost of adding insulation to the existing home. (This builder says that he is pretty sure he was told that the homeowner could not have a Mass Save Home Energy Assessment and then enroll in the Major Renovations Pilot.)

The other interviewee who considered having a Mass Save Home Energy Assessment is a homeowner who is also a builder and architect. He plans on taking advantage of the zero interest Heat Loan for upgrading his heating system and would like to have spray foam insulation added in his attic. However, he says none of the insulation contractors in his area who offer spray foam are on the approved contractor list and that it is hard to get somebody that is an hour away to come for a small job. He says, *“It’s not impossible, but I just wish they were a little more flexible on the contractors you could use to do the insulation. So, I haven’t insulated yet.”*

The interviewee who considered the Mass Save Home Energy Assessment, Deep Energy Retrofit, ENERGY STAR home gut rehab and Heat Loan options is a homeowner who has already had a Mass Save Home Energy Assessment and a Deep Energy Retrofit Assessment and plans on taking advantage of the zero interest Heat Loan. Because he is not gutting his home, it does not meet the qualifications for participating in the New Homes with ENERGY STAR Program. He said that, originally, someone from the Deep Energy Retrofit Pilot told him that it would cost him \$20,000 to participate and that the Deep Energy Retrofit Pilot would contribute \$40,000. He thought this would be good because he was going to install a heating system and that if he did the insulation through the Deep Energy Retrofit Pilot he might not need the expensive heating system. He contacted two contractors who told him they thought they could do the work for \$60,000, but after visiting his home their quotes climbed to \$80,000 and \$100,000. Under these scenarios, his share of the cost would be \$40,000 or \$60,000, which he considered too high.

8 Satisfaction

Interviewees were asked how satisfied they were with the ability of the people they talked to about the Pilot to explain the Pilot and the incentives available, describe other programs their project might qualify for and answer any questions they had. Interviewees were asked if they were:

- Very satisfied
- Satisfied
- Neither satisfied nor dissatisfied
- Somewhat dissatisfied
- Very dissatisfied

As shown in Table 8-1, only one-half of the interviewees were very satisfied (one interviewee) or satisfied (three interviews).

Table 8-1: Satisfaction Ratings

| Satisfaction Rating | Number of Responses (n=8) |
|------------------------------------|---------------------------|
| Very satisfied | 1 |
| Satisfied | 3 |
| Neither satisfied nor dissatisfied | 0 |
| Somewhat dissatisfied | 2 |
| Very dissatisfied | 2 |

The interviewee who was very satisfied commented:

“It was good. I contacted people via mail and phone, and I think the Pilot was described in general to me and with some specifics. I asked some questions, they were clarified, and there was some back and forth.”

Four interviewees were somewhat or very dissatisfied. Two interviewees say they were somewhat dissatisfied. One of these says he was somewhat dissatisfied only because he had not been told about two or three of the other available programs mentioned during the interview. Other than that, he says his experience related to considering participating in the Pilot was fine.

Of the other three homeowners who were dissatisfied, one is a builder/architect, one is a commercial builder and one designed his addition. All three planned very energy-efficient additions and had either recently completed or were planning extensive efficiency upgrades to their existing homes. They were already doing everything required by the Pilot and felt they did not get clear information about what incentives they would be eligible for or how much it would cost them to hire a HERS rater.

9 Suggestions and Final Thoughts

9.1 Suggestions

Interviewees were asked if they had suggestions for ways to make participation in the Major Renovations Pilot more user-friendly for homeowners. All eight interviewees offered suggestions. Their suggestions, listed below, focus on providing clearer descriptions of what the Pilot offers and the cost of participating in the Pilot, especially the cost of hiring a HERS rater. Knowing what information is included on the Major Renovations Pilot application form may help readers put these suggestions in context. The Major Renovations Pilot application form states that incentives of up to \$2,000 are available for envelope upgrades and that the HERS rater chosen for the project will be responsible for ordering free CFLs for the project. The application form also states that participants may be eligible for additional rebates if they install ENERGY STAR windows or high efficiency heating and domestic hot water equipment, and that they will be told what rebates they will be eligible for after they are enrolled in the Program. With respect to HERS rater fees, the application form includes the following language:

“There are costs associated with the services rendered by HERS Raters which vary per project based on the work required. Contact a HERS Rater before beginning the application process to obtain cost information. The incentives offered by [sponsor] serve to defray costs and may not cover all of the expenses occurred.”

The Pilot pays \$1,050 of HERS rater fees, but this information is not included on the application form.

Interviewees’ suggestions for ways to make participation in the Major Renovations Pilot more user-friendly for homeowners are presented below:

- *“There's just so much information out there it's overwhelming. Make it more compact, more straightforward. You have to call this person, get copies of this—it's a lot of legwork, a lot of hoops. I found out about the Pilot by calling three different people until I finally reached the right person.”* (Homeowner)
- *“I always wondered why it was called the Major Renovations Program when the essential requirement is a sizeable addition. There's a misnomer there, and I don't know if it throws people off. Maybe it could be called the Major Additions Program.”* (Builder)
- *“The information was very weak. I guess if I had called and if the person on the other line was a little more knowledgeable and helpful about the program it probably would have helped me a lot more.”* (Homeowner who is a builder and architect)

- *“Other than just putting it in magazines that they might be reading, I don't know. Homeowners aren't really thinking along same lines as builders, or at least some builders, so I'm not sure how to make participation easier for them.”* (Builder)
- *“Provide a succinct handout that can't be changed by the person you talked with. A layman wouldn't understand what the HERS rater was talking about (not just technically).”* (Homeowner who is a commercial builder)
- *“You could save a lot of time by asking people over the phone about what stage of construction they were in.”* (Homeowner who is the general contractor for his addition and was told it was too far along to participate in the Pilot when the HERS rater came to test the existing home.)
- *“It would be nice to have all the costs laid out and how the program will support you so everyone can look at it initially to decide if they can afford it. Initially I looked at it and said, ‘oh great,’ if I install more insulation then you'll give me \$2,000 to support that. But, then I ended up finding out more detail about all the other people and costs involved.”* (Homeowner)
- *“I don't know if the program is new or something, but it's just not clear. If it's clear, more like the HERS rater costs \$500 or \$1,000 and the program will give you \$2,000, so you basically pay them \$1,000 and get \$2,000 back. If that's clear then everybody knows, but it wasn't clear.”* (Homeowner)
- *“The money you provide should just go directly to doing whatever you need to do to improve the insulation.”* (Homeowner)
- *“It's just not clear how much the HERS rater costs.”* (Homeowner)
- *“Tell customers about the upfront costs that they will need to cover and that all the HERS raters charge the same fees; that should be the first thing you tell the customer.”* (Homeowner)
- *“Provide a clear breakdown of the measures and what you'll get back for each measure. If you do this, you get back this much; you do that, and you get back that much. Don't get customers hopes up for nothing.”* (Homeowner)

9.2 Final Thoughts

At the end of the interview, everyone was asked if there was anything we did not ask about that they would like to say about their experience considering participating in the Major Renovations Pilot. Five of the interviewees had comments. The builder working for a client says the experience was good, but that in the end, participating in the Mass Save Energy Assessment won out in the interest of the homeowner.

The homeowner who is a commercial builder said:

“I have some experience working with these government type programs shortly after the stimulus, and I know how they can go and not go. I hope the program worked for some people. I thought the program was laid out before they had people in place who knew what was going on. I thought it had a lot of value, and it probably did in the end, and you'd probably refine it, but, typical government, they go out with these things before they have a complete package to offer, and you have people who don't know what they're doing trying to promote it.”

The homeowner who converted his vacation home to a year round retirement home commented:

“Frankly, I was disappointed I couldn't do this program. Not that you told me I couldn't, but it didn't make financial sense for me to do it.”

The homeowner who considered participating in the Deep Energy Retrofit Pilot commented:

“I would have to spend more money to pay for consultants to recommend improvements than the reimbursement from the program. Basically, I wouldn't be able to use any funding from the program to make actual insulation improvements, so there is no point.”

Another homeowner commented that he installed ENERGY STAR lighting, but not all the fixtures in his home are ENERGY STAR because some of the styles he wanted were not available. He also said that his appliances are not ENERGY STAR; they are commercial because that is what he wanted. He ended by saying, *“I did my best to make the house efficient without the program.”*

Appendix A Non-Participant Interview Guide

Questions for Potential Participants with Eligible Projects who Decided Not to Participate in the Major Renovations Pilot

BACKGROUND INFORMATION

1. How long have you lived in the home where you are building the addition?

LEARNING ABOUT THE PILOT

2. How did you learn about the Major Renovations Pilot? *(Probe to find out if they went to the MassSave.com website and clicked the option for new construction and additions; if they called the 800 number or emailed majorreno@icfi.co; if their architect, builder, insulation contractor or someone from their lumber yard told them about the Pilot; if a HERS rater told them about the Pilot; etc.)*
3. What stage was your project in when you learned about the Pilot? *(Probe to find out if they were still in the planning stage or already had plans for their addition, if they were already working with an architect and/or builder, if they had already started demolition or construction, etc.)*
4. Were you told about other pilots or programs your project might be eligible to participate in? Examples are the Mass Save Energy Assessment, Deep Energy Retrofit Pilot Program, and the Massachusetts New Homes with ENERGY STAR program for gut rehabs of existing homes, etc.?
 - 1.1. If yes, who told you about these other options?
 - 1.2. Were the other options clearly explained, including the financial incentives available?
5. Did you talk with a HERS rater about what changes, if any, you would have to make to your plans to meet the technical requirements of the Major Renovations Pilot?
 - 5.1. If yes, what changes would you have had to make?
 - 5.2. Do you think talking to the HERS rater was helpful?
 - 5.2.1. If yes, in what way was it helpful?
6. Why did you decide not to participate in the Major Renovations Pilot?
7. Did you consider participating in any of the other options/programs?
 - 7.1. If yes, which other options/programs did you consider?
 - 7.2. Did you decide to participate in one of the other programs?
 - 7.2.1. If so, which program?
 - 7.2.2. Why did you decide that program would best meet your needs?
8. *If project is in a stretch code community ask:* Did the stretch code requirements for additions influence your interest in participating in the Major Renovations Pilot?

PLANNING YOUR PROJECT AND IMPACT OF LEARNING ABOUT PILOT

9. When you started planning your addition, was it important to you to make sure your addition would be energy efficient?
 - 9.1. If yes, what energy-efficient construction practices and/or equipment choices were you particularly concerned about or interested in?
10. When you started planning your addition, did you also plan on upgrading the energy efficiency of your existing home?
11. How did you go about choosing an architect and/or builder?
12. *Ask customers who decided not to participate in any other programs (responded “no” to question 7.2):* Did you make any changes in the design of your addition or in the building materials, windows, HVAC equipment etc. because of what you learned while considering participating in the Major Renovations Pilot?
 - 12.1. If yes, what changes did you make?
13. *Ask customers who decided not to participate in any other programs (responded “no” to question 7.2) and did not originally plan to upgrade the energy efficiency of their existing home (responded “no” to question 10):* Did you decide to upgrade the energy efficiency of your existing home because of what you learned while considering participating in the Major Renovations Pilot?

SATISFACTION

14. Overall, how satisfied would you say you are with the ability of the people you talked to about the Major Renovations Pilot to explain the program, the incentives available, describe other programs your project might qualify for and answer any questions you had? Would you say you are:
 - A. Very satisfied?
 - B. Satisfied?
 - C. Neither satisfied nor dissatisfied?
 - D. Somewhat dissatisfied?
 - E. Very dissatisfied?
- 14.1. If somewhat or very dissatisfied, ask: Why were you dissatisfied?

SUGGESTIONS

15. Do you have any suggestions for ways to make participation in the Major Renovations Pilot more user-friendly for homeowners?
 - 15.1. If yes, what changes would you suggest?

Demographic Information

16. Including yourself, how many people live in your household most of the year?
 - A. Number of year-round occupants _____
 - B. None—seasonally occupied
 - C. Prefer not to answer

17. What is the highest level of education that you have completed?

- A. Less than high school
- B. High school graduate
- C. Technical or trade school graduate
- D. Some college
- E. College graduate
- F. Some graduate school
- G. Graduate degree
- H. Prefer not to answer

18. What is your age?

- A. 18 to 24
- B. 25 to 34
- C. 35 to 44
- D. 45 to 54
- E. 55 to 64
- F. 65 or over
- G. Prefer not to answer

19. What category best describes your total household income in 2010, before taxes?

- A. Less than \$35,000
- B. \$35,000 to \$49,999
- C. \$50,000 to \$74,999
- D. \$75,000 to \$99,999
- E. \$100,000 to \$149,999
- F. \$150,000 or more
- G. Prefer not to answer

Closing

20. Those are all the questions I have. Is there anything I haven't asked you about that you would like to add about your experience considering participating in the Major Renovations Pilot?

THANK YOU FOR YOUR TIME