

CLIENT COMMUNICATION AND EDUCATION

Often, people's knowledge about energy and its uses is not very accurate. This is especially true of low-income persons, who tend to be less informed about energy. Research shows that residential energy use per square foot of living space is higher for the low-income than for the general population. This is due, in part, to differences in housing stock. However, it is also due to energy-related behaviors. This suggests that low-income persons can benefit from information about how energy is used in their homes and what actions would make the most difference in controlling their energy bills.

Client communication and education is very important throughout the entire process from the initial contact with the client to schedule the energy audit of the client's house through the time the work is being done on the house. Client communication is important for a number of reasons. Early in the process communication with the client will help in the following ways:

- It can provide information to the agency that could prevent unnecessary trips to the house (e.g. the house is for sale, has extensive roof damage, is being remodeled, etc.).
- It can help to decrease the amount of time it will take to do the home energy audit by having the client move stored items ahead of time to ensure there is access to all areas of the house.
- It can make the weatherization process easier for energy auditors and crews/contractors by ensuring client understanding of the weatherization process (e.g. a furnace contractor will come to inspect the furnace, siding may be removed in order to insulate the walls, a person will come to the house after the work is completed in order to inspect the work, etc.).
- It can make the weatherization process easier for energy auditors and crews/contractors by ensuring client understanding of the services that will or will not be provided (e.g. will not replace all the windows, will not re-roof the house, will not paint the house, etc.).
- It can provide information that can assist the energy auditor in determining how the house is working (e.g. cold areas in the house, moisture on windows, etc.).

Many client complaints are due to the fact that the clients expected the program to do things that the program either is not allowed to do by rule or regulation, or does not do because it is not cost effective. These clients may have expected the program to do rehab work, fix major structural problems, make the dwelling handicapped accessible, install new windows, paint the house, etc. When the program does not address these problems, the clients complain because they didn't receive the services that they either thought they would receive or hoped they would receive.

By spending time, at the very beginning of the process, to clearly explain to clients what the program can and cannot do, you may be able to significantly reduce the number of client complaints received and the time and, in some cases, frustration involved in resolving the complaints.

- A good way of communicating with clients is through a screening process that provides useful information to the agency when the client is first contacted. The screening process consists of asking a client a number of questions that provide important feedback to the agency and energy auditor.
- It is recommended that agencies provide information to clients on the weatherization process so they know what to expect.

It is very important for the energy auditor to communicate with the client as the house is being audited. It not only informs the client of what the energy auditor will be doing but can also be used to obtain information about how the client uses the house and is very important in the client education process. It will also help you find any existing heating/cooling/moisture problems and understand energy or health and safety issues with the house. Following is a list of suggested things the energy auditor should discuss with the client before and during the home energy audit.

GETTING STARTED

After the initial meeting and introduction the client is given general information about the program:

- The program is at no cost to you and the main focus of the program is to save energy.
- Inform the client of what you will be doing during the energy audit of the home (drawing the home or taking pictures, checking for insulation, performing a blower door test, etc.) in general terms.
- Clients will be required to sign a Client Consent Form describing possible issues before the home energy audit. **If the client refuses to sign the form, no work will be completed on the house and it will be closed incomplete.** The original of the signed release must be in the client file, and the copy will be left with the client. A sample of this form is available on the State of Iowa Weatherization website in the Members Only section: www.weatherization.iowa.gov as well as in the *General Appendix Manual*.
- Results of the home energy audit will be entered into a computerized energy audit that will tell us what measures are cost effective to do.
- The refrigerator and freezer will also be metered to tell us how much electricity these appliances are using.
- If the agency is contractor-based, there will be at least two contractors doing the work, one HVAC contractor and a weatherization contractor. The energy auditor should have a list of who they have as contractors.
- If the agency is crew-based, the energy auditor should at least tell the client who the crew foreman is as well as the company or person doing HVAC work.
- Either contractor may come to look at the home so they may submit a more accurate bid. The contractor should call first. The contractor should be able to identify themselves as working for the agency involved and should be able to identify the energy auditor.
- The bid process and a timeline for the work to be started are discussed with the client.
- It is the responsibility of the contractor to discuss lead paint issues but sometimes the evaluator may discuss this with the client. If it is a crew-based agency, either the energy auditor or a crew member is responsible to give the client the pamphlet and have the client read and sign the disclosure statement. Both the pamphlet and disclosure statements are available on the State of Iowa Weatherization website in the Members Only section: www.weatherization.iowa.gov.
- If there are problems between the client and contractors/crews (scheduling, communication difficulties, work being performed, etc.) that cannot be resolved, the client is told who to call.

COMBUSTION APPLIANCE TESTING

- During the home energy audit, the heating system and all combustion appliances will need to be operated in order to test them.
- The home will need to be closed up (exterior windows and doors closed) during this testing.
- During some of the testing (heating system testing) the exhaust fans as well as the dryer will need to be running.
- We will check the furnace filter to make sure it is clean and all of the registers to see if they are open, or in some instances if they are closed (supply register in the combustion appliance zone).
- We may also need to open or shut certain interior doors during this testing.
- All combustion appliances will be tested for carbon monoxide.
- Vented appliances will be tested to make sure they are drafting, to make sure the combustion gases are going up the chimney.
- Gas lines will be checked to see if they have any leaks.
- The general operation of the heating system will be checked to see if it is running properly.
- If there is an attached garage a carbon monoxide alarm will be installed. If there are other situations that warrant a carbon monoxide alarm or smoke alarm one will be installed. If a carbon monoxide alarm or smoke alarm are installed the client is instructed on the use of the alarm. The expiration date of the carbon monoxide alarm is to be written on the alarm. Symptoms of carbon monoxide poisoning are discussed if in the past or currently there are problems with any of the combustion appliances. The oven is tested for carbon monoxide.
- If there are any obstructions such as aluminum foil blocking the air holes, the client is informed of the problem.

- Furnaces, gas dryers, gas water heaters are tested for carbon monoxide, spillage, draft pressure, and the vent pipe inspected. The hot water may need to be turned on so the water heater will operate.
- In most cases an HVAC contractor or crew will come and do a clean and tune on the heating system.
- If a cracked heat exchanger is found during the home energy audit or some other serious condition that would cause the heating system to be replaced, a clean and tune is not done. Program funds will cover the cost of the heating system replacement for homeowners. Other problems found during the tune and clean will be covered by program funds.
- The duct work may also be checked for leakage. This is checked with the furnace fan running. The contractors/crews may be asked to seal holes and cracks in the ducts as part of their work.
- Room pressure may be checked to make sure that air coming out of the hot air or supply registers is getting back to the heating system through the cold or return air register. This is also done with the heating system fan running.

BLOWER DOOR TESTING

- During the blower door testing the exterior doors and windows must be shut and all interior doors need to be open.
- A large fan will be installed in the door and used to depressurize the home. It will pull air through cracks and holes in the envelope of the home and show us where we need to seal the home. The blower door also gives a number to use to tell us how loose or tight the home is. When the blower door is running we will look around the home to try and find the areas with the most air leakage.
- The general condition of the windows and doors will be noted.
- Sometime during the home energy audit a diagram of the home will be done and pictures of the home may be taken for the agency and/or contractor use.
- We will inspect the home for existing insulation. The computerized audit will determine if insulation can be added and the amount of insulation that will be installed.
- The attic will be inspected for the amount and type of existing insulation. It will be checked for openings into the envelope of the home and venting.
- While in the attic the appliance and exhaust venting will be inspected for any problems.
- Insulation in the sidewalls can be checked by several methods, drilling holes in the wall (exterior or interior), taking off electric switch plates, etc.
- In the basement the band joist is inspected to see if insulation is needed.
- If crawlspaces are accessible they are inspected to see if they can be insulated.

CLIENT INPUT AND RESPONSIBILITIES

Client input concerning the home can be very important in decision about weatherizing their home. The following are questions that should be asked:

- Are there any places in the home that don't seem to get enough heat in the winter?
- Are there any leaking roofs?
- What areas of the home are unheated? There may be areas of the home that are questionable if they are in the heated envelope of the home. The client needs to have input on this but the decision must be made by the energy auditor with consideration given for registers in the room, if the room can be weatherized without excessive cost, and if the room is necessary for the size of the family, etc.
- Are the combustion appliances working well from the client's perspective? Does the furnace heat the home well, how long does it run for, do the burners shut off and on without the fan stopping, do the ducts make a lot of noise, etc?
- Do they change the furnace filter regularly even in the summer if they have central air conditioning?
- Is there excessive moisture in any of the rooms or on any windows in particular?
- Ask which light bulbs they leave on the most in the home and approximately how long they are left on?
- If you have concerns that the home might be for sale ask the client if it is for sale.

In some cases the client may need to do some items prior to weatherization. These items need to be discussed and include:

- If there is a lot of storage in the attic, basement, and/or in areas to be worked on talk to the client to make sure they can move the items prior to work being done.
- There may be some housekeeping items the client must do such as; spray for insects, clean up areas of the home, exterminate rodents, etc.
- They need to be told that they are responsible to work with the contractors/crews in being accessible so they can get into the home.
- It may also be necessary for the client to move or remove animals from areas to be worked on so the contractor/crews can do their job.
- Keeping an eye on children and pets are not the responsibility of the workers.
- Once the home energy audit is complete the client must give written consent for the work to proceed. There may be other forms for the client to sign as well (refrigerator forms, interior wall insulating form, etc.) before work may proceed.

CONTRACTOR RESPONSIBILITIES

The weatherization contractor is primarily responsible for work done on the shell or envelope of the home.

- This work consists of insulation in the attic, walls, and crawlspace or basement, sealing by-passes, and infiltration work. This work depends on what the audit and energy auditor call for being done.
- Other work may include weatherstripping, glass repair, attic access sealing, wall repair, etc.
- The process used to insulate the walls is explained as far as taking off the siding, opening up the sheathing, and running a tube up the wall cavity. The possibility of some siding damage is discussed with the client and potential for some minor dust in the home are also discussed.
- If doors and windows will need to be replaced discuss with the client as to which ones will be replaced and what will be used to replace the existing window or door.

HOW THE CLIENT CAN SAVE ENERGY

- Give the client suggestions as to what to set the thermostat on in the winter and also the summer if there is central air conditioning.
- If there are high ceilings you might suggest that ceiling fans be installed.
- Make sure they know how to change the furnace filter. Suggest that they check the filter every month when they get a utility bill. If a new heating system has been installed suggest that they check it even more often because the faster fan speed will pull old debris into the new filter and clog it more readily. If they have central air conditioning they need to be told to check the filter every month also.
- It is recommended that the heating system filter size be written on the cold air drop so the client easily knows the size and as a reminder to them.
- Make sure the client knows the importance of keeping the registers and grills clean and free from objects sitting on them.
- You may suggest that the coils on the refrigerator be cleaned if they appear to be dirty.
- If there is a fireplace the client should be shown how to shut the damper if they do not know. It could be sealed if the client no longer wants to use the fireplace. The damper should be closed whenever the fireplace is not in use.
- The client should be told the importance of closing windows and doors (even the storm windows) when they are running the furnace or air conditioning. Plastic on the windows can save additional money and stop drafts.
- Suggest that the water heater temperature be turned down. If the client is agreeable adjust it to 120°F. or 140°F. if there is a dishwasher.
- Discuss with the client the results of the refrigerator and freezer monitoring. Make them aware of how much electricity they are using. If there are multiple refrigerators or freezers suggest that they unplug the extra appliance and provide them with the amount that that particular appliance is costing them.

CLIENT HEALTH & SAFETY

- In addition to affecting energy use, people's behavior can also affect their health and safety. People's behavior may result in moisture problems (and therefore mold and mildew) in homes. It may also increase the risk of backdrafting of combustion appliances.
- It is important to discuss with clients how things such as showers, humidifiers, thermostat settings, appliances, opening and closing doors and windows, and using ovens for space heating can have an impact on their health and safety as well as their energy costs.

WRAP UP

- If the metering of the refrigerator shows replacement to be cost-effective the available options for its replacement need to be discussed. The client needs to be told who the vendor is who does the replacement, and given a timeline on when to expect delivery of the appliance.
- The client needs to sign all applicable forms (refrigerator replacement, lead notification, etc.) and the permission to proceed with the weatherization. The Health & Safety Assessment Findings Sheets (Part 1 & Part 2) must be completed. These forms are required in the client file. Samples of these forms are available on the State of Iowa Weatherization website in the Members Only section: www.weatherization.iowa.gov as well as in the *General Appendix* Manual.
- Tell the client what work is likely to be done and an approximate time frame to expect the work to begin.
- If there are problems or concerns give the client your business card or number to call.
- There will be a final inspection of the work done by the agency. During the final inspection the inspector will be looking at all the things that I have and be doing most of the testing that I have done (heating system testing, blower door testing etc.).
- In some cases there will be on-going monitoring of the job by myself or someone from the agency to make sure the work is proceeding as planned as well as inspecting the work as it is being done.
- If there are problems with the work not being done to the standards, the contractor will be sent back to correct the work.
- The state does sometimes inspect some of the work that is done by the agency, so there may also be someone from the state to look at the work done. They will try to contact you prior to their inspection.
- Ask the client they have any question and thank them for their cooperation and time.