

ENERGY EFFICIENCY FAQs

Q *If I want to make energy efficiency improvements to my home, how do I do it? Where do I begin?*

A First, you will want to decide what the priority issues are for your house. Some improvements are easy to do and provide fast financial paybacks. Other improvements are more involved, and the payback might come over a longer period of time. Generally speaking, all energy improvements are good – some measures just provide a faster payback than other measures.



Q *How can I determine the best energy improvements for my house?*

A You could do it one of two ways: 1) Rely on general information that is useful for all homes (see information below), or 2) Hire an energy auditor to provide you with a more accurate snapshot of how your house performs and where the improvements will serve you best.

Q *How do I find an energy auditor, and are there any financial assistance options for this?*



A There are a few options for you to get your home analyzed. Income eligible residents can utilize the services of weatherization program providers to identify the home's energy weaknesses and make some improvements (www.michigan.gov/heatingassistance). You can contact a Home Energy Rater trained through the Residential Energy Services Network (www.natresnet.org/directory/raters.aspx). You can also contact an accredited Building Performance Institute contractor at www.bpi.org/content/consumers/find.php.

Regarding financial assistance, you will want to check with your local utility company to see if they are sponsoring a program that off-sets the cost of a home energy audit. Michigan utility companies are currently implementing their new "Energy Optimization Plans." This means utility companies are providing programs and sometimes rebates for energy saving practices for their customers.

Q *Once I have the energy audit completed, how do I get started on making improvements, and are there any financial assistance options for me to complete the energy improvements?*

A Some improvements you may be comfortable doing yourself, such as: installing compact fluorescent light bulbs, applying caulk in places where air is escaping or dialing down the thermostat at night or when the house is not going to be occupied. Other improvements may require the assistance of weatherization providers. The energy auditor may have suggestions for weatherization service providers, or your utility company may be running a program involving weatherization service providers in your area. Income eligible residents may access the services of their community action agency for weatherization improvements. There are federal tax credits available for energy efficient improvements. Seek out the information on the tax credits and factor in the savings as you decide which remedies work for your home. To get more information, please visit: www.energytaxincentives.org.

Check with your local utility company and see if they are offering financial rebates for weatherization or equipment improvements that will make your home more energy efficient.



Michigan Department of
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ENERGY SAVING TIPS

for lighting & appliances

- ▶ Replace incandescent bulbs with compact fluorescent bulbs.
- ▶ Turn off lights when you leave a room.
- ▶ Clean light fixtures. Dirt reduces light output.
- ▶ Use natural daylight where (and when) possible.
- ▶ Use solar-powered lights for yards and walkways.
- ▶ Use microwave or toaster oven rather than a regular oven.
- ▶ Cover pots and pans when cooking.
- ▶ Clean lint filters regularly in clothes dryers.
- ▶ Turn off equipment or appliances when not in use.
- ▶ Turn off dishwasher when it reaches dry cycle and let dishes air dry.
- ▶ Set refrigerator temperature between 36-29 degrees F.

for cooling

- ▶ Close windows and doors during hot days and open them at night.
- ▶ Use fans to cool individual rooms.
- ▶ Caulk, weatherstrip, and reglaze old windows.
- ▶ Install window films on windows and skylights.
- ▶ Plant shade deciduous trees on the sunny side of the house.
- ▶ Keep outside of air conditioning units free from leaves and debris that can clog vents.
- ▶ Clean or replace the air filter once a month.
- ▶ Purchase ENERGY STAR approved appliances.



for building a house

- ▶ Insulate roof and attic areas to R-49.
- ▶ Insulate above finish grade exterior walls and rim joist/box sill areas to R-21.
- ▶ Insulate basement walls to R-11 (cavity insulation) or R-10 (continuous insulation).
- ▶ Reduce unintended air infiltration by carefully sealing around all joints and penetrations.
- ▶ Build a house with a maximum of 12% window area to wall area.
- ▶ Select insulated entrance doors of R-5 or greater.
- ▶ Purchase a thermostat that can automatically lower your temperature at night and when you are away.
- ▶ Install high efficiency condensing furnaces or boilers with outside combustion air and exhaust. Another option is geothermal heat pumps with ratings of 4.0 COP.
- ▶ Install a tankless water heater or a natural gas water heater with an energy factor of .62 or greater. Install electric water heaters with an energy factor of .95.
- ▶ To maintain indoor air quality, select a controlled ventilation system or heat recovery ventilator.
- ▶ Properly size heating and cooling ducts that have all joints and connections sealed.



RENEWABLE ENERGY FAQs

Q If I want a Renewable Energy system on my home, where do I begin?

A The very first place to begin is with energy efficiency. Everything mentioned on your energy efficiency sheet should be your starting place for considering a renewable energy system for your home. As they say at the Department of Energy, "it is better for the environment (and cheaper) to improve the efficiency of your energy use than to produce more energy to meet inefficient consumption."



Knowing that you are reducing your energy loads first, the next logical step is to have a conversation with a renewable energy system product and service provider (contractor).

Q Where do I find product & service providers for renewable energy systems?

A One place to search is online at: www.michigan.gov/energyoffice. On the left tabbed menu select "Publications." Under "Renewable" choose "Solar and Wind Energy Equipment Suppliers."



Another place to search is at www.glrea.org/bizMemCategories. From here, select "Contractors Renewable Energy" from the drop down menu.

Q Do contractors charge a fee to meet with me and assess my site?

A It depends. Sometimes there is a consultation fee that is charged to you and then credited if that contractor installs a system for you. You will want to ask the contractor how they handle site visits and consultations.

Q How do I know if my home is a practical site for a renewable energy system?

A The contractor can assess your specific site in regards to wind and solar potential. As a general reference for wind, check the wind energy resource maps at: www.michigan.gov/energyoffice. On the left tabbed menu select "Wind and Solar." Under "Wind Energy" follow the link to "Michigan Wind Energy Resource Maps."

Questions continued on back >>

Finding a Contractor Tips

When searching for a contractor, you should:

- ▶ Look in the yellow pages.
- ▶ Ask neighbors and friends if they have worked with a contractor they would recommend.
- ▶ Look for licensed, insured contractors.
- ▶ Focus on local companies.
- ▶ Get three bids with details in writing.
- ▶ Ask about previous experience.
- ▶ Check references.
- ▶ Inquire with the Better Business Bureau.



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Q *Are there restrictions as to what I can install on my home?*

A You will want to check with your local zoning office in terms of potential height and visual obstruction considerations that may be addressed in the zoning ordinance.

If your local zoning ordinance does not address wind energy systems, the Bureau of Energy Systems has posted a model ordinance that may be helpful: www.michigan.gov/documents/dleg/WindEnergySampleZoning_236105_7.pdf

Renewable energy system contractors should be aware of local provisions that apply to renewable energy systems.

Q *What about financial incentives for installing renewable energy systems?*

A There are federal tax credits available for renewable energy systems. Seek out the information on the tax credits and factor in the savings as you decide which remedies work for your home. This information is made available at: www.energytaxincentives.org.

Q *Will the utility company pay me for sending them surplus energy generated from my renewable energy system?*

A This is called net metering, and yes - Michigan now has net metering provisions for small renewable energy systems. Check out the details at www.michigan.gov/mpsc. On the left tabbed menu select "Renewable Energy." Again, on the left tabbed menu select "Net Metering."

Q *What about geothermal systems for my home?*

A Although initially more expensive to install than conventional systems, properly sized and installed geothermal heat pumps deliver more energy per unit consumed than conventional systems. Installing a geothermal system is more cost-effective for a new home since you're not replacing an existing system, yet it can be feasible for both existing and new construction.

Geothermal heat pumps require installing a system of pipes called a "loop" to act as a heat source during the winter and heat sink during the summer. The heat pump system can also serve as a hot water heater, so it takes the place of many of your heating and cooling appliances. A geothermal system can also work with your existing duct work – a new system is not required.

The main advantage is that a geothermal system uses on average 25-50% less electricity than a conventional heating and cooling system. The geothermal system is eligible for a Federal Recovery tax credit - up to 30% of the total system cost.

For more information on geothermal systems please refer to: www.energysavers.gov/your_home/space_heating_cooling/