

Top Improvements For Home **ENERGY** Savings

*An overview of the **3** most popular
energy upgrades*

Weatherization · Heating and Cooling · Solar

A publication of VSECU



Contents

SAVE MORE THAN ENERGY	3
WEATHERIZATION	5
HEATING AND COOLING	8
SOLAR	9
SAVE MONEY	13



SAVE MORE THAN ENERGY

In Vermont, we are surrounded by unparalleled natural beauty, particularly through the winter months. Though our chilliest season is known to raise energy costs, you can save both energy and money by making a few changes to your home.

One of the greatest necessities in your life – your home – can consume a lot of energy. Keeping warm, lighting the house at night, and running appliances takes a toll on the planet and hurts your pocketbook.

By making a few strategic home improvements, you can reduce your impact on the environment, minimize your energy use, and save money on domestic energy expenses.



By improving energy efficiency in your home, you will:

- Save money
- Reduce your energy use
- Have a positive effect on our planet

But what home improvements and investments will give you the greatest home energy savings?

What to Tackle First

Chances are you already know that you could be doing more to save energy, but the questions you may ask are:

Which upgrade will provide the best return on my investment?

What time of year should I start such a project?

Which contractor should I work with?



*Money you save
on energy can be
put toward more
important things,
like education
costs, your
retirement fund,
or a vacation
getaway.*

Through our experiences with VSECU members, we've learned which energy efficiency projects result in the greatest savings for homeowners and we want to share our knowledge with you.

By taking the next best step, you can make a difference

Your next best step may be to reduce your use of oil and propane, or to generate your own electricity. These may seem like small steps, but by reducing your reliance on fossil fuels and increasing your energy efficiency, you will strengthen your local economy by **supporting job growth in Vermont's energy efficiency and renewable industry**. Investing in energy improvement projects also sets a great example for neighbors, family, and friends who will undoubtedly want to follow your lead!

WEATHERIZATION

A Good First Step – Weatherization is a term used in the energy efficiency world to describe the work that will tighten your home and upgrade insulation to reduce air leakage, and slow down the natural process of heat or cool air loss.

Weatherization is one of **the best things you can do for your home** and your wallet. Your first priority should be to eliminate leaks so that cooled or heated air stays inside, where it belongs. Even if you decide not to make any other improvements, sealing your home will save you money and precious energy.

The first step in weatherization is to hire a certified professional contractor to come to your home and perform an energy audit (visit [Efficiency Vermont](#) for a list of contractors). Energy audits generally cost between \$300 and \$500 and include a report listing prioritized recommendations for repairs, upgrades, and improvements along with price estimates.



Project Costs & Savings

Typical weatherization projects average between \$6,000 and \$8,000. Costs may be higher if the project includes a major roof renovation or window replacement. This may sound like a lot of money, but homeowners realize many benefits, including:

- An average savings of \$375/year
- Fewer drafts
- More consistent temperatures throughout the home
- Fewer allergens and less dust

Put Your Energy Audit to Work

So you have your energy audit report from your contractor, listing all the recommended projects and how much they cost... now what?

You have two options:

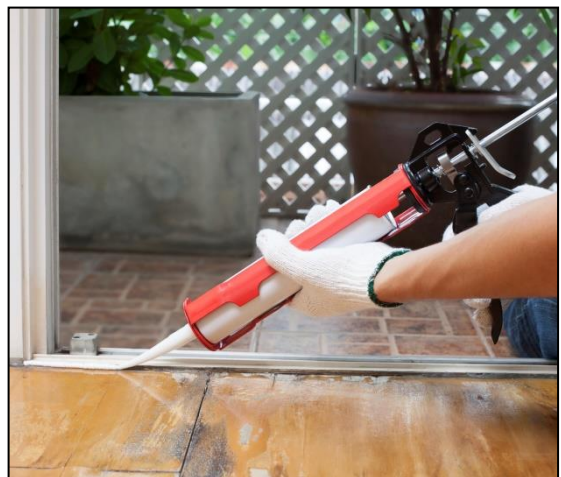
1. Hire a professional weatherization contractor to do the work
2. Do some of the work yourself and hire a weatherization contractor to advise and guide you through the project (see [Efficiency Vermont's DIY option](#))

TIP:

Ask your energy professional about some of the steps you can take to save money on your project.

Weatherization projects that offer the most bang for your buck are often required in some of the least pleasant spaces of your home, like the basement and attic. Many projects involve squirming along rafters in a hot loft, tight crawl space, or dark basement corners.

Your house is a system. **When you seal up air leaks, consider how this will effect other parts of the system.** For example, when air leaks are sealed, your furnace or wood stove may not have enough air to function properly, or moisture may become locked in your home and lead to mildew growth. Your weatherization professional will make sure your work achieves your goals to save energy and money while ensuring a safe and healthy home environment.



“If your home has spiders or other insects, it probably has air leaks—they love fresh air!”

Work with a Pro:

Vermont has many reputable weatherization auditors and contractors. You can find these professionals in your area on [Efficiency Vermont's website](#). Here are 3 reasons why you may want to work with a professional:

1. They will help you prioritize your energy efficiency projects so that you will save money from the start
2. They are certified, so they know their stuff and will make sure your home is warm, ventilated, and safe.
3. They can help you access valuable rebates through [Efficiency Vermont](#). Some rebate examples that our members have received include:
 - **A \$100 discount** on an energy audit
 - **Up to \$2,000 cash back** for air sealing and insulation work
 - **\$500 cash back** for replacing an old heating system



Note:

Rebates for weatherization are available **ONLY** if you hire an approved contractor to perform your energy audit.

Remember, the energy audit is the best first step in weatherizing your home, whether you do the work yourself or hire a professional.

Tip:

Air seal before you insulate. Insulation will prevent air from leaking through the materials your house is made of but will not prevent the air from leaving through cracks in your home. Sealing and insulation work well together to keep your home cozy, but if you must choose one over the other, air sealing will provide the greatest energy savings.

Just adding insulation to your attic without air sealing first is like wearing a sweater on a cold, windy winter day without a wind-resistant jacket.

HEATING AND COOLING

Upgrade your central heating system with a high-efficiency boiler or furnace and consider a heat pump for supplemental heat.

Keeping your home warm during the long, dark winter months can get expensive. If you've got an antiquated and inefficient system, you are likely struggling to pay your heating bills.

If your current system is old or in need of repairs, investing in a new, more energy efficient heating system may be your smartest move. You will save money in the long run and improve the comfort in your home.

Consider These Energy Saving Heating Upgrades

Depending on your situation, there are several steps you can take to save both energy and money

1. Install a more efficient boiler or furnace
2. Replace an old electric water heater with an efficient, electric heat pump water heater
3. Consider an electric cold climate heat pump for supplemental heating and cooling

Hire a professional to evaluate your system before deciding how to improve your heating system. A Qualified heating/cooling contractor can help you find the right appliance for your home and budget. Since the technology is constantly changing and every home is different, requesting an expert opinion will save you time and money in the long run.



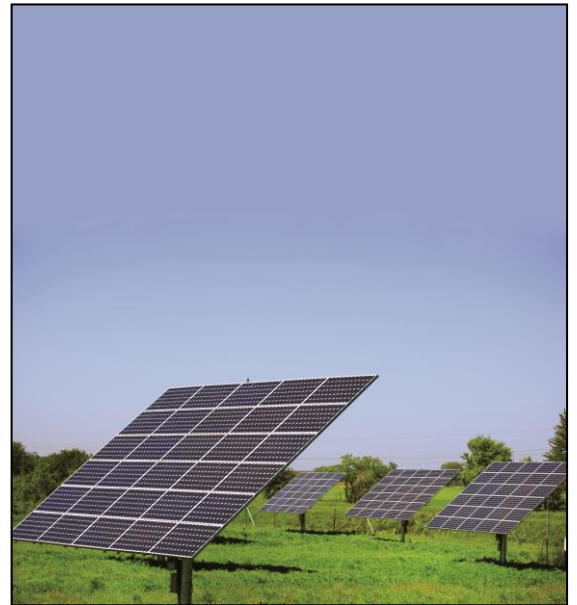
When you're ready to get started, go to [Efficiency Vermont](#) to find a qualified professional to help with your project.

SOLAR

A solar photovoltaic system (PV) converts solar energy into direct current electricity; it is a clean and sustainable way to produce energy using the sun's rays.

Solar panels are ubiquitous now and they are a **great way to invest in renewable energy and save money**. From residential rooftop and ground installations, to community arrays and larger utility-scale farms, solar panels benefit your long-term budget and your carbon footprint while supporting local energy jobs

More good news: **the renewable-friendly policies offered by the State of Vermont make solar photovoltaic systems a highly attractive, alternative power source.**



Vermont's Goals

One reason we are seeing so much interest and activity in home energy savings is that **Vermont is a leader** in creating renewable-friendly policies and offering incentives for Vermonters to make energy efficient upgrades in their homes.

In 2011, Vermont implemented a comprehensive energy plan with a goal of obtaining 90% of the state's total energy from renewables by 2050 in order to:

- Maintain our economic security and independence
- Safeguard our environmental legacy
- Drive in-state innovation and job creation

Vermont has passed some of the most renewable-friendly laws in the nation, including a net metering law that makes going solar an easy, affordable, and smart investment. Hence, why you are seeing more solar panels on rooftops and community landscapes.

OWN YOUR ELECTRICITY



For most of us who rely on electricity, *we are essentially “renting” our electric energy.*

We don’t own it. We pay the rates that a utility company charges us and we don’t really have any control over those rates.

Investing in Solar

Investing in solar means you **own your electricity** and you can **take advantage of net metering**. When you purchase solar, you are generating your own electricity. What you don’t use (the excess), goes back to the grid. You receive a credit for the excess energy you have produced, which you can use during the darker months.

One way to think about net metering is that you are billed for the “net” of what you produce and consume. You use your solar power first and if you need more, you get it from the grid.

Affordability

Solar projects require a significant upfront investment, so most people finance their upgrade. While they are paying off their loan, they begin saving immediately as their solar production is applied as a credit to their electric bill. After the loan is paid off, they begin realizing the full payback on their investment.

For example: Let's say you take out a 15-year loan and your solar panels are guaranteed for 25 years. At the end of your 15-year payment plan, you will enjoy much lower (maybe even nonexistent) electricity bills for the life of your panels.

What if you generate more than you use?

No problem! Any unused electricity goes back to the grid and you receive a credit for your future electricity needs. Remember — you can always get any extra electricity you need from the grid.

Solar Tax Credit Expires in 2016

Don't put it off any longer! If you invest in solar before the end of 2016, you can take advantage of a federal tax credit of

30%

of the cost of your solar project.*

That's a great incentive to transform your energy to a renewable source.

***Consult with a tax professional about your situation.**

Some Things to Consider

Before choosing the right option for you, consider the following:

- Do you have a suitable site at your home for a roof or ground mount?
- Can you manage operation, maintenance, and other issues?
- How does your electric utility apply solar credits to your account?
- Can you take advantage of the tax credit benefit?

Solar Options

Purchase a solar system and have it installed right on your property.

Your solar system can be installed on the roof of your home or other building (like a barn), or on your property (using a ground mount). With this option, you purchase the system and can claim the tax credit. You will be responsible for proper operation of the system, scheduling service, or replacing parts as needed.



Participate in a community solar arrangement.

If you don't have a suitable solar location or don't want panels at your home, you can **buy into a neighborhood array, or a larger solar farm that offers solar shares**. Deeper savings are often passed on to participants in this type of large array sharing infrastructure. If you sell your home, you can often transfer or sell your solar shares.

Whichever option you choose, you will save money in the long-term and will have access to clean, local solar power. You can learn more about how solar energy works and find a list of solar installers in Vermont by visiting the [Renewable Energy Vermont](#) website.

Solar power is clean (thanks, Sun!), and it is local (you produced it with your panels). It's really a win for everyone, and you will know you contributed to Vermont's energy goal of achieving 90% renewable by 2050.

TIP:

With the solar tax credit expiring in 2016, make solar your priority. You can dive into your weatherization and air sealing projects later using your solar savings!

SAVE MONEY

Energy savings means pocketbook savings.

We take great pride in our independence and Vermont values. Investing in home improvements can help protect our natural landscapes and save money on home energy costs.

Our state fully supports a variety of energy saving efforts in the following ways:

- Dedication to environmental preservation
- Support of renewable policy and efficiency initiatives
- Focus on the long-term health and happiness of its residents

Combine this strong state focus with the interest of businesses, communities, and individuals who are looking for ways to support these objectives and together we can make a difference.

Each individual effort to invest in efficiency and renewable energy can be beneficial for us all. These investments not only pay you back today, but will continue to garner rewards for generations to come.

TAKE THE FIRST STEP

Hire a professional contractor to perform a home energy audit and get you started down the path to the top improvements for home energy savings.



VSECU is a not for profit banking alternative for all Vermonters that is owned and controlled by its members and governed by an elected volunteer board of directors.

The credit union offers a full range of affordable financial products and services to its member-owners. People eligible to join the credit union include anyone who lives or works in Vermont.

VGREEN

Energy Savings Loan Program

VGreen is VSECU's statewide financing solution for energy efficiency, renewable, and alternative energy projects including green vehicles. We offer a variety of loans with discounted rates and longer terms to help increase energy efficiencies in your life and reduce long-term energy costs.

"VSECU is committed to finding opportunities, within both our operations and business products, to promote environmentally sound choices for our employees and our member-owners."

- VSECU Environmental Mission
Statement - October 2005

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