

Green renovations that pay for themselves

From solar power to toilet installation, get big returns on your investment

Many green home improvements can reduce your monthly utilities bills. In some cases the pay-off is immediate, while others offer substantial savings over the long term. Here are five green renovations ideas that offer the top return on your investment.

1) Programmable thermostat

Installing a programmable thermostat is one of the cheapest and easiest ways to be more energy-efficient and to save money, no matter what the season.

In the summer, turn up the thermostat on your air conditioner when you leave the house. Set it at 25°C or higher: each degree below 26°C raises energy consumption by about [three to five per cent](#), according to Natural Resources Canada. Similarly, in winter months, turn down your thermostat in the evening. For every degree you lower your thermostat for a minimum of eight hours, you save up to two per cent on your heating bill, according to [SaskEnergy](#).

Most people can comfortably reduce their heat by three degrees at night, providing savings of 6 per cent annually.

Programmable thermostats can cost as little as \$40 and can pay for themselves within a year or two. But proper use is essential: to get these savings they have to be programmed. Look for a model that has easy programming functions, and keep an eye on people who “nudge” the temperature and don’t return it to the regular setting.

While many homeowners will be able to install a programmable thermostat themselves, some rebate programs require you to hire a participating contractor who will sell and install the unit.

2) Ultra-low-flush toilet

The water used to flush your toilet accounts for about 30 per cent of your indoor water use, according to Environment Canada.

Standard toilets installed in homes prior to and through the 1980s use about 20 litres of water per flush (20 Lpf). In the early 1990s, the standard became 13 Lpf models, which are still sold today. In 1996, the Ontario Building Code was amended to require the installation of ultra-low-flush 6 Lpf toilets in new buildings, and some municipalities in other provinces have also adopted this standard.

The first six-litre models were unreliable: the flush didn't do the job. But new technology and improved design have yielded a product that works. More recently, dual-flush toilets — which feature a three- to

four-litre option for liquid waste and a six-litre option for solid waste — have been introduced, providing even greater water savings.

Based on savings estimates from Environment Canada, ultra-low-flush toilets installed in the home of a family of four in Toronto or Calgary would save about \$230 each year compared to an old 20-litre toilet, based on a water cost of \$3 per cubic metre. Similarly, a family in Halifax would save about \$180.

You can buy ultra-low-flush toilets for as little as \$130 each. This means you can recover the cost of a new toilet in less than a year — even before the \$50 rebate offered in many municipalities is factored in.

3) Insulation

Upgrading the insulation in your ceiling and exterior walls — and reducing air leakage as you do so — will help make your home more energy efficient. It can shave 25 per cent off your heating and cooling bills, according to the [Canadian Mortgage and Housing Corporation](#). Homes from before 1980 have poorer insulation, so projects are particularly worthwhile for those houses. Natural Resources Canada also offers good information on insulation projects.

Between a provincial or utility company grant and rebate programs, as well as monthly energy savings, homeowners can recoup their home renovation costs in a relatively short period of time.

4) Furnace

A high efficiency furnace is a worthwhile investment for many homeowners. An old furnace has an annual fuel utilization efficiency (AFUE) rating of about 60 per cent, and standard efficiency units are 78 to 84 per cent efficient. But a new condensing gas forced air furnace has an AFUE of 90 to 97 per cent, making it one of the most efficient types of furnace on the market today.

A new high-efficiency furnace can cost as little as \$2,500 with prices rising for even higher efficiencies. Homeowners can reduce their investment for Energy Star-rated furnaces (those AFUE above 95 per cent) with rebates that are available across the country.

According to [Natural Resources Canada](#), a condensing gas furnace will use 30 to 38 per cent less energy than an old furnace that runs with an AFUE of about 60 per cent. Depending on how old your current furnace is, you could pay off the entire cost of a new furnace in less than five years through just energy savings — and get a new furnace at the same time.

Keep in mind, though, that if you have a relatively new furnace, the change in your gas bill won't be as dramatic. Also keep in mind that if you don't already have a gas furnace, you'll incur additional costs to set up a new gas system, and therefore your payback period will be longer.

5) Solar electricity

The initial cost of a solar electric energy system ranges widely depending on the size of the system, which in turn depends on the energy needs of the house. A \$5,000 system can provide supplemental electricity, while \$10,000 could pay for a system that covers all electricity needs and \$30,000 could be enough to provide both heat and power. Fortunately, in provinces with supportive policies, these investments will pay for themselves with energy savings and the option to sell excess electricity to your local provider.

If you live in Ontario, solar electricity is even more cost-effective: the [Ontario Power Authority's microFIT Program](#) allows homeowners to sell eco-friendly electricity to their local distribution company at a set rate — up to [\\$0.384](#) per kilowatt hour for solar electric power — on a 20-year contract. In that case, the payback period on a residential system can be as little as 10 years. In provinces that do not support residential electricity generation, payback will be longer. Most solar photovoltaic systems have a lifespan

of [20 to 30 years](#), though, so your system will be serving you long after it is paid for.

Source URL (modified on 07/21/2015 - 17:20):

<http://ecoliving.scotiabank.com/green-renos-that-pay-for-themselves>