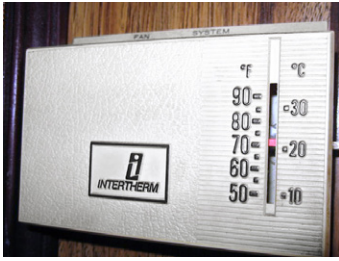




Energy Efficiency: Thermostats - Why Upgrade?

(General)



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Why Get a Programmable or Smart Thermostat?

Traditional thermostats only allow you to set a single temperature and keeps that temperature until someone changes it. This is great while a family is home, but people typically spend a lot of time away from home. That means the home's furnace is running constantly and a lot of energy is wasted. Programmable thermostats work smarter, not harder.

Programmable Thermostats

Programmable thermostats are a low cost, simple option to save money, improve your comfort and reduce your environmental footprint.

- During winter months, while kids are at school and parents are at work, you can lower the temperature so your furnace works less (i.e. 16°C).
- Program a comfortable temperature to kick in shortly before everyone is expected to arrive home (i.e. 20°C).
- You can lower the temperature just before bed so sleeping is more comfortable (i.e. 18°C).
- Programmable thermostats can have different schedules for weekdays and weekends as needed.

By programming temperatures that make sense for your schedule, your furnace will not have to run as much. This saves money and wear and tear on your system. Plus, you will spend less time readjusting the temperature. Set it and forget it.

Smart Thermostats

Smart Thermostats are basically programmable thermostats with interactive features (and a higher price tag). They are connected to your home's Wi-Fi so you can control them from your smartphone, tablet or laptop. This way you can adjust programming or access information from any location with internet access.

Some smart thermostats are able to "learn" a home's heating and cooling patterns. All home's will heat and cool differently due to furnace efficiency, insulation, building materials, square footage etc. By learning these patterns a Smart Thermostat will avoid overshooting temperatures which would waste fuel.

Smart thermostats may even detect when you are home by tracking if your smart phone is connected to the home's WiFi. This lets the system automatically reduce the temperature while you are not home, and start the furnace back up to the usual temperature when you return.

Additionally, they are able to provide home energy reports, record run time of your heating and cooling equipment, and even recommend when to replace air filters!

How To Choose

This is a personal preference.

- If you are someone who likes playing with new tech and would love access to real time data, a smart thermostat is likely the way to go.



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- However, most people set the temperatures at the beginning of every season and have no interest in looking at it again. If this sounds familiar, you may want to save the upfront cost and go with a straight programmable thermostat.

Starting Point	Upgrade	Sample Product Cost \$	Energy Savings \$/year	Greenhouse Gas Savings*	Payback years
Non-programmable thermostat	Programmable thermostat	\$65	\$300	800	< 6 mo.
Non-programmable thermostat	Smart thermostat	\$230	\$300	800	1
Poorly used programmable thermostat	Smart thermostat	\$230	\$200	500	1

* (kilograms of carbon dioxide equivalent per year)

Savings

Most ACFN homes have non-programmable thermostats so it is the same temperature all the time unless you get up and adjust it. By upgrading to a programmable or smart thermostat, your temperatures will change automatically to save money, energy and the environment.

See the sample chart above.



Greenplanet Energy Analytics

Installation

Installing a thermostat is a very straightforward task for trained professionals and will take less than an hour to complete. If you are interested in installing your own:

- All thermostats come with installation manuals and are designed to be installed by home owners.
- You will be working with live electricity, so it is important that you are knowledgeable and feel comfortable doing this.
- It may take you a little longer to complete but you'll end up with more money in your pocket.

Watch Out!

What if you want to change the temperature right now? You can override the program and set a new temperature any time you want. But be careful, some thermostats will not switch back to the program unless you tell it to. You don't want to waste all that energy, so be sure it goes back to the program.

Things to Check Out

Smart Thermostats - Government of Canada

<https://www.nrcan.gc.ca/energy-efficiency/energy-efficiency-products/product-information/heating-equipment-residential-us/smart-thermostats/15781>

Video - Programming your Thermostat - Natural Resources Canada

<https://www.youtube.com/watch?v=izEcRomoetY&feature=youtu.be>

THE SMART CHOICE Made Simple ENERGY STAR® SMART THERMOSTATS

Smart thermostats that earn the ENERGY STAR label are independently certified to deliver reliable performance and energy savings.

FEATURES

ENERGY STAR certified smart thermostats provide convenience, insight, and control. Features include the ability to:

- Learn your temperature preferences and establish a schedule that adjusts to energy-saving temperatures when you're asleep or away.
- Provide home energy use data that you can track and manage.
- Give you control of home heating and cooling remotely through your smartphone.

CERTIFIED

ENERGY STAR smart thermostats are third-party certified to do the following:

- Track and report equipment use and temperature data to the homeowner.
- Quickly enter a low-power standby mode when inactive.
- Save energy based on field data collected from over one thousand homes over an entire year.

SAVINGS

ENERGY STAR certified smart thermostats enhance comfort and energy savings.

If everyone used an ENERGY STAR certified smart thermostat, savings would grow to:

11
PETAJOULES
OF ENERGY

(equivalent to energy used in about 700,000 electrical vehicles per year)

248
MILLION DOLLARS
PER YEAR

OFFSETTING

774
KILOTONNES
OF GREENHOUSE GAS EMISSIONS

(equivalent to 1.5 of the greenhouse gas emissions by Nunavut in 2015)



Save Even More with Utility Rebates: Utilities or efficiency programs in your area may offer rebates on ENERGY STAR certified smart thermostats.



In addition, in some areas, homeowners with smart thermostats can participate in utility programs that support reliable power for everyone, and earn financial rewards for it.

- Look for ENERGY STAR certified smart thermostats that will deliver on what you expect from smart thermostat technology. Smart thermostats that earn the ENERGY STAR offer:
 - Demonstrated Energy Savings
 - Reliable Performance
 - Environmental Benefits
 - Convenience, Insight, and Control