

# Extreme weather home makeover:

How climate change is changing  
home improvements



# Extreme weather home makeover: How climate change is changing home improvements

Spring is the start of home improvement season in B.C., but the extreme weather experienced across the province in recent years has many considering making home improvements that will better prepare them to brave an increasingly unpredictable climate—especially the summer heat. In recent years there has also been a dramatic increase in the addition of inefficient portable air conditioning units in B.C. homes as British Columbians try to manage hotter summers. While most B.C. homes use portable AC units, a better solution for the environment and electricity bill is to switch to a heat pump which can replace a gas-powered heating system in the winter and provide cooling in the summer. However, many British Columbians are not even aware heat pumps can cool or when to begin the process of installing.

## Highlights

- A new survey<sup>1</sup> conducted on behalf of BC Hydro finds British Columbians are worried about the effects of climate change at home—and are planning renovations to cope.
- Most were directly affected by last year's extreme summer heat, and 69 per cent said they are concerned about how climate change will affect the comfort of their home.
- This has led many to plan home improvements—21 per cent are planning renovations specifically to prepare for more extreme temperatures.
- Of those planning to make renovations or improvements, a quarter would like to add a central AC system.
- In fact, with extreme temperatures becoming the norm, BC Hydro data shows air conditioning use has grown—increasing by about 50 per cent over the past decade from a quarter of British Columbians using it at home to nearly 40 per cent—and new research suggests that figure could be even higher.<sup>2</sup>
- Last summer 14 per cent of British Columbians said they purchased some type of AC to improve the comfort of their home—this goes up to 17 per cent for those living in the Lower Mainland.
- However, many British Columbians are not fully aware of their cooling options, and some overestimate their preparedness to make changes to their home.
- Of those planning to add central AC, 44 per cent have not started the process of getting pricing quotes or making product inquiries, which can often take many weeks or months.
- Many have also never considered a heat pump and are missing out on rebates as a result—16 per cent said they are not aware that a heat pump can cool in the summer.

## Solutions

BC Hydro recommends the following to prepare your home for warmer weather:

- Consider cooling with a heat pump: Because BC Hydro generates 98 per cent of its electricity from clean, renewable resources that are mostly powered by water, using a heat pump to heat in the winter and cool in the summer is more environmentally friendly than a system powered by gas. It is also more energy efficient than using multiple portable AC units. BC Hydro offers up to \$3,000 in rebates for switching from a fossil fuel based system, which can be combined with provincial and federal rebates for a total savings of up to \$11,000 on cost and installation with some municipalities adding additional rebates on top of that. Up to \$2,000 in rebates are available for customers switching from electric baseboard heating. Visit [powersmart.ca](https://powersmart.ca) for more information.
- Start preparing today: get quotes for renovations and installation of heat pumps early—right now there could be a wait of three months or more from quote to installation.
- Research rebates: For other ways to keep your home cool in warmer weather, including insulation upgrades, BC Hydro's Home Renovation Rebate Program offers several energy savings rebates.
- If you are not able to install a heat pump because of the type of home you live in consider using a window unit instead of a portable AC—they are twice as energy efficient. For more AC options and other tips to keep cool visit [powersmart.ca](https://powersmart.ca).

<sup>1</sup> Online survey conducted by Majid Khoury of 800 British Columbians between Feb. 22 —28, 2022 margin of error 3.46%

<sup>2</sup> BC Hydro residential End Use Survey 2020

Since the COVID-19 pandemic began, many British Columbians have been spending more time at home, which has led some to make home improvements. At the same time, British Columbia has experienced some challenging weather brought on by climate change in recent years, including heatwaves, heavy rains and cold snaps.

Spring is the start of renovation season in B.C., and a new survey conducted on behalf of BC Hydro finds British Columbians are worried about the effects of climate change at home and are planning home improvements to cope.

In recent years there has also been a dramatic increase in the addition of inefficient portable air conditioning units in B.C. homes as British Columbians try to manage hotter summers. This report will examine climate change worries at home, and how British Columbians can make important changes to be prepared for extreme weather going into the warmer months.

## Weather worries

Summer 2021 was the hottest on record for many parts of British Columbia. From June 25 to July 1, a high-pressure weather system that trapped heat settled over the province. This ‘heat dome’ caused record breaking temperatures up to 49.6°C in B.C. Climate scientists concluded that the extent of the heat would not have been possible without climate change caused by human actions.<sup>3</sup>

Most British Columbians (89 per cent) report being directly impacted by last year’s extreme summer heat, and its aftermath caused anxiety. In fact, a study published in the Journal of Climate Change and Health found British Columbians are more anxious about climate change after last summer’s heat wave than they were before it.<sup>4</sup>

## Climate change hits home

The realities of climate change are hitting home in B.C. Most British Columbians (69 per cent) are concerned about the impacts of climate change on their home heading into the warmer months—especially when it comes to comfort and livability. This is likely why many (21 per cent) are taking on home improvement projects specifically to prepare for more extreme temperatures.



**21% of British Columbians plan to make home improvements specifically to deal with climate change this spring/summer.**

While 64 per cent do not have plans to make renovations, and 15 per cent are unsure, this does not mean they feel prepared for the heat. In fact, of those who said they will not be making renovations 27 per cent do not feel their home will be ready if B.C. faces more extreme weather this spring/summer, and 19 per cent are unsure.

## AC use on the rise

Of those planning to make upgrades to cope with extreme weather, 25 per cent said they plan to install a central AC system, and AC use is on the rise in B.C.

BC Hydro data shows air conditioning use has grown by about 50 per cent over the past decade from a quarter of British Columbians using it at home to nearly 40 per cent—and new research suggests that figure could be even higher.<sup>5</sup> Last summer 14 per cent of British Columbians said they purchased some type of AC to improve the comfort of their home—this goes up to 17 per cent for those living in the Lower Mainland. This can be directly tied to the hotter summers the province has been experiencing due to global warming.

<sup>3</sup> Rapid Attribution Analysis of the extraordinary heatwave on the Pacific Coast – World Weather Attribution

<sup>4</sup> Journal of Climate change and Health – The 2021 heat dome increased climate change anxiety among British Columbians: results from a natural experiment

<sup>5</sup> BC Hydro residential End Use Survey 2020

In recent years there has also been a dramatic increase in the addition of inefficient portable air conditioning units in B.C. homes as British Columbians try to manage hotter summers. BC Hydro data shows<sup>6</sup> portable AC units are the most widely adopted type of air conditioner in B.C. However, they are less energy efficient than a central air conditioning system or a heat pump and use twice as much energy as a window unit.

### Increasing AC use changing summer electricity demand

In summer 2021 increased AC use contributed to BC Hydro experiencing 19 of its top 25 all-time summer daily peak hours for system load. This includes breaking its all-time summer peak hourly demand record on June 28, 2021 when demand reached 8,568 megawatts, shattering the record that was set before the heat wave began by more than 600 megawatts—the equivalent of turning on 600,000 portable air conditioners.

Many British Columbians are not fully aware of their cooling options, and some overestimate their preparedness to make changes to their home. Of those planning to add central AC, 44 per cent have not started the process of getting pricing quotes or making product inquiries, which can often take many weeks or months. Many have also never considered a heat pump, which means missing out on numerous rebates—16 per cent said they are not aware that a heat pump can cool in the summer as well as typical AC units.

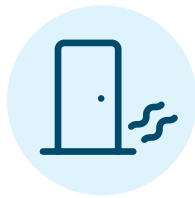
### Projects British Columbians are planning to fight the heat



Central air (25%)



Air filtration (22%)



Draft proofing (18%)



Home insulation (15%)



Exterior wall coverings (15%)

## Pump the brakes on climate change

Because BC Hydro generates 98 per cent of its electricity from clean, renewable resources that are mostly powered by water, using a heat pump to heat in the winter and cool in the summer is more environmentally friendly than a system powered by gas. It is also more energy efficient than using multiple portable AC units. BC Hydro offers up to \$3,000 in rebates for switching from a fossil-fuel based system, which can be combined with provincial and federal rebates for a total savings of up to \$11,000 on cost and installation with some municipalities adding additional rebates on top of that. Up to \$2,000 in rebates are available for customers switching from electric baseboard heating.

There has been an increase in demand for heat pumps in recent years because of hotter summers and more rebates. This, coupled with supply chain issues caused by COVID-19, means that the wait from order to install can be over three months, so even though it may seem like there is plenty of time for a cooling renovation, the time to consider your options and get quotes is now.

For other hot and cold weather prep projects, such as insulation upgrades, BC Hydro's Home Renovation Rebate Program offers several energy savings rebates in partnership with CleanBC. For more information and eligibility requirements visit [bchydro.com/homerenorebates](https://bchydro.com/homerenorebates). If you are not able to install a heat pump because of the type of home you live in consider using a window unit instead of a portable AC—they are twice as energy efficient. There are also other ways to keep cool air in and hot air out in the summer besides AC. For instance, draftproofing or using a ceiling fan. For more AC options and other tips to keep cool visit [powersmart.ca](https://powersmart.ca).

<sup>6</sup> BC Hydro Residential End Use Survey 2020

