

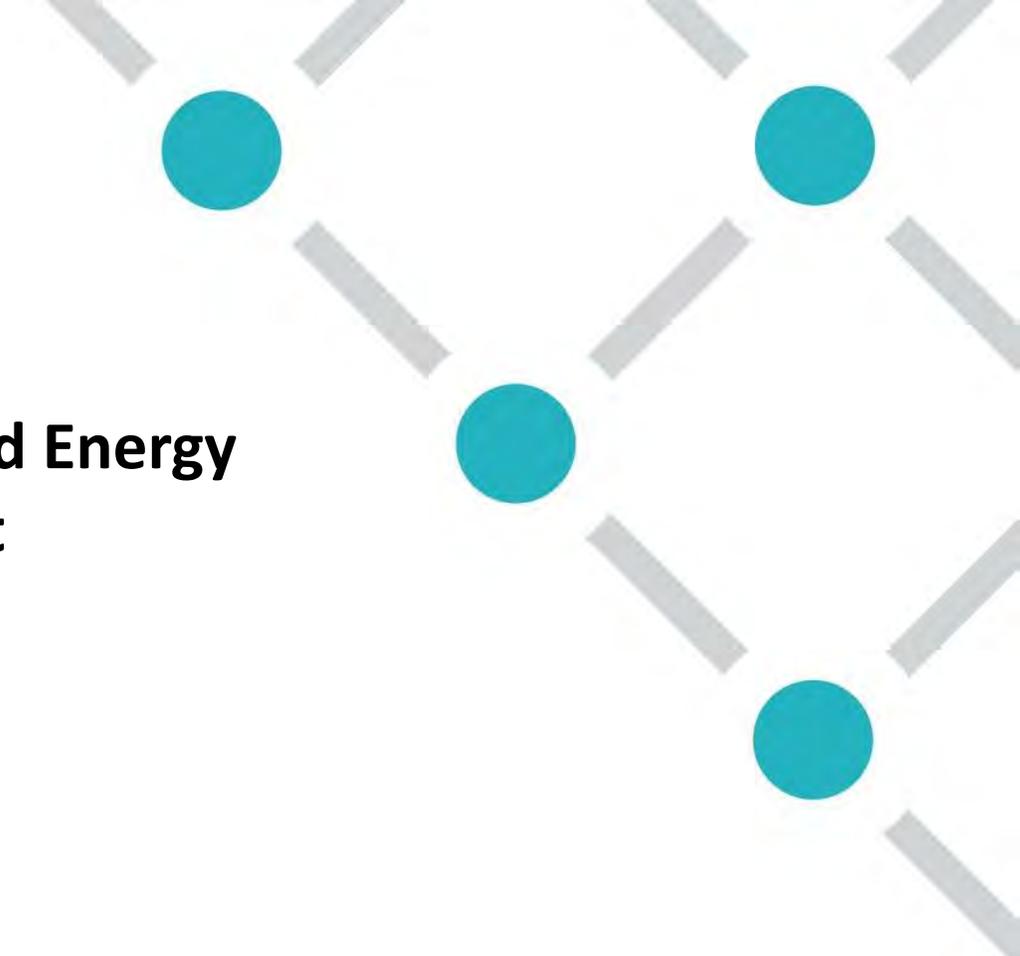


NARRATIVE
RESEARCH

Climate Change and Energy Perceptions Report

July 2023

Prepared for:
The City of Edmonton





Background

The City of Edmonton has various programs working together to meet the goals of the Energy Transition Strategy. The climate strategies aim to make Edmonton a more energy sustainable and resilient city, by reducing the city's greenhouse gas emissions, reducing and conserving energy, promoting local generation of energy, and taking measures to reduce climate risks by adapting to a changing climate. The support and participation of residents in the programs is essential to the success of these programs. To be able to market, target and adapt these programs effectively, the City of Edmonton seeks to understand its audiences, their perceptions, what motivates them and their barriers to action. For this purpose, the City of Edmonton has commissioned research in past years, the most recent iteration being an online survey in June-July 2022. The purpose of the current survey is to compare results to previous survey waves in 2018-2022, and the baseline established in 2017, thereby facilitating an assessment of changes in awareness and perceptions, while also measuring the effectiveness of current messaging.

Research Objectives

The following are the specific objectives of the current survey:

- *To measure and compare changes in perceptions, attitudes and beliefs about climate and energy;*
- *To provide insights about Edmontonians' current behaviours with respect to climate change and energy transition programs; and*
- *To determine awareness and perceptions of the City's existing programs.*



Target Audience

- Residents of the city of Edmonton, 18 years of age or older.



Approach

- Online survey using a general population online panel with contact records provided by The Logit Group.
- To meet current needs, changes were made to the *2023 Climate Change and Energy Perceptions Survey* from the previous version, with adjustments made in the wording of selected questions, new questions being added, and old questions being removed.
- Data was statistically weighted by age, gender, and region (quadrants) using 2021 Census data to reflect the city's population along these dimensions.
- As this is a general population non-probability panel survey, to report a margin of error is inappropriate.
- Percentage point changes year-over-year are noted throughout the report providing it is a difference of at least five percentage points from the previous year's results.
- For demographic/sub-group comparisons, differences of at least ten percentage points or more are mentioned, in order to focus the reporting on the most notable differences.
- The first iteration of this survey was conducted in 2017.

1,004
Completed
Surveys

15
days

Survey Dates

- 26 June – 10 July, 2023



Survey Length

- 18 minutes, on average



Important Notes on Reading this Report

This iteration marks the seventh time the climate change and energy report has been prepared for the City of Edmonton. As such, readers are reminded that the wording of many questions throughout this report have changed to varying degrees over the years of this tracking research study, shifting to meet the evolving needs of the City. Changes to question wording are only noted in the report in the year in which the change has occurred.

In addition, where a five-point scale ('strongly agree' to 'strongly disagree') is shown for multiple statements on the same graph, statements are listed or ordered top to bottom by the percentage of respondents who offered a "strongly agree" response, from highest to lowest.

Occasionally, language used is purposefully chosen in order to avoid an unnecessarily personal degree of specificity. In particular "higher" income refers to household incomes that exceed \$100,000 annually, "lower" income refers to incomes up to and including \$60,000 annually, and "moderate" income reflects the range in between the two.



NARRATIVE
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Executive Summary



Feelings Toward Climate Change

Edmontonians' feelings toward climate change remain stable relative to a year ago, and indeed, relative to five years ago. There is large majority agreement among Edmontonians that they are concerned about climate change (74%), that we need to act now to address climate change (73%), and that climate change is caused mostly by human activities (71%). Approximately two in three Edmontonians confirm they are taking action to help address climate change (65%), they are taking action to adapt to a changing climate (64%), as well as wanting to do more personally to help address climate change (65%). Opinions are notably divided on a new measure this year: Willingness to pay a tax levy to address climate change, as residents are more likely to disagree (45%) than agree (34%).

Once again, in addition to expressing their own personal opinions on these matters, residents were also asked their perceptions of how Edmontonians in general feel regarding climate change. As in preceding years, residents are more so inclined to agree that they themselves hold progressive perceptions vis-à-vis issues related to climate change, as compared to the general public more broadly.

A majority of Edmontonians wish for the City to either increase (43%) or maintain (22%) its efforts to address climate change. While 22 percent of residents are unsure how much effort the City should put in, 13 percent want the City to decrease such efforts.

Once again, residents recognize economic and employment opportunities associated with addressing climate change. That said, there is a decline of five percentage points this year in terms of agreement that investing in energy efficiency provides job opportunities for Edmonton, with 67 percent now agreeing. More stable, 66 percent agree transitioning to renewable sources of energy provides job opportunities for Edmonton, and 62 percent agree that efforts to prevent climate change present an economic opportunity for Edmonton.



Feelings Toward Climate Change (cont'd)

Edmontonians continue to recognize the impact of actions on climate change, albeit there has been selected declines in agreement for certain statements this year. One area that is stable is that 77 percent agree that walking, cycling, or taking public transit instead of driving a car reduces the impact on climate change. In terms of personal transportation choices, 67 percent agree their choices impact climate change, down six percentage points. Down eight points, 65 percent agree that fossil fuel-based home heating/cooling and electricity use contribute to climate change, and down five points, 65 percent agree their home's energy use and what they do in their home has an impact on climate change. Just over one-half (54%) agree that driving electric vehicles is better for the environment as compared to driving gas or diesel vehicles. This is down 11 points from 2022, albeit an update in wording may have contributed to this change.

New measures this year, 74 percent agree that having solar panels on your home is better for the environment than other energy sources, while just one-half (51%) agree that using hydrogen as an energy source is better for the environment than using other energy sources. For the latter, 18 percent are not certain, suggesting a portion are not familiar with the concept.

A total of 75 percent of residents feel comfortable talking about climate change with their family, friends, or colleagues, and 46 percent of residents mentioned regularly doing so, on par with 2022 findings.

This year, residents were asked if they had heard of the expression 'climate resilience,' and 26 percent confirm they have. The term is most associated with adapting to or mitigating environmental changes due to climate change.



Weather and Climate Change

Agreement is strong among Edmontonians that climate change is linked to increased frequency and intensity of events like flooding, heat waves and forest fires (74%), climate change is affecting Edmonton's weather (72%), and climate change negatively impacts the health and well-being of individuals (71%). While agreement that climate change is linked to increased frequency and intensity of events has increased, and agreement that climate change negatively impacts the health and well-being of individuals is down, this may be attributable to wording updates. When asked, aided, if inclement weather events were risks associated with climate change, 83 percent of residents agree in terms of at least one type of weather event, unchanged from the past two years. Most associated is extreme heat (74%) and increased wildfire smoke (74%). With the exception of the top two events, fewer Edmontonians this year than in 2022 agree that the various events are a risk arising from climate change. The most notable decline is for increased flooding (down 14 percentage points). In the last two years, 95 percent of residents say they have experienced at least one extreme weather event, a steady increase from 86 percent since 2021. Of note, 86 percent have experienced increased wildfire smoke, up notably over the past two years. Also up is extreme heat, now reported by 79 percent.

A large majority of Edmonton homeowners are trimming weak and broken tree branches (71%), while fewer are landscaping with plants and trees that require less water (47%), securing loose shingles from winds (44%), and floodproofing their property (40%). Just over one-half (54%) of Edmontonians have sealed drafts to maintain good indoor air quality, while 32 percent have installed a rain barrel. Four in ten (40%) have an emergency preparedness plan.

Energy Efficiency

Up eight percentage points from 2022, 56 percent of Edmontonians have taken action to increase their home's energy efficiency in the past year. When provided with specific aided examples of improving home energy efficiency, 87 percent confirm taking at least one of the 11 actions at some point, with an average of 4.2 actions being taken. Just over four in ten (44%) report taking other actions in the past year to reduce their impact on climate change. When presented with a specific list of 12 actions, 97% confirm taking at least one in the past year, with an average of 7.6 actions.



Energy Efficiency (cont'd)

In terms of home energy costs, 79 percent agree that the cost of energy use in their home makes them want to conserve, while 55 percent sometimes worry whether there is enough money to pay their energy bills. A total of 59 percent of Edmonton residents agree that if they really wanted, by making a few home improvements they could probably use less energy in their home than they do presently, while 43 percent agree that they don't know enough about ways to reduce their home's energy use. Edmontonians are more inclined to agree that the most important reason for reducing home energy use is to save money on bills (74%), than they are to agree that the most important reason is to improve the comfort of their home (48%). Most (85%) Edmontonians view it as important that their home is energy efficient, and place considerable importance on the energy efficiency of the buildings in which they work, study, play, or shop, as three-quarters of residents indicate that energy efficiency is important for such buildings (74%).

Close to two-thirds agree they are proud to be energy efficient (64%), as well as say they want to feel like they are contributing something to society, so they reduce their home's energy use (63%). Only 35 percent consider themselves an activists on behalf of the environment. More generally, most (88%) like to be in control of their spending.

Programs

Currently, 54 percent confirm they are aware of the EnerGuide Program. This is up notably from 2022, albeit there was a change of wording which could have played a large role in the change. There continues to be widespread agreement that having an EnerGuide evaluation with recommendations on how to make the home more energy efficient would be valuable when renovating (79%), while three in four agree that when buying or renting a home, they would like to see the results of the EnerGuide evaluation of that home compared to others (74%). On a related note, 54 percent agree that the programs available to encourage households to reduce their energy use are very helpful. One in four are aware of the Clean Energy Improvement Program.



Electric Vehicles

Down seven percentage points since 2022, 31 percent of Edmonton residents are extremely or very familiar with electric vehicles. This shift corresponds to an increase in the proportion somewhat familiar while the proportion not very or not at all familiar remains consistent. Stable since 2022, 42 percent do not have experience with electric vehicles, while the remainder has varying levels of experience. Seven percent say they own or have owned an electric vehicle, down from 2022. Twenty-six percent are likely to purchase an electric vehicle for their next vehicle. The price of an electric vehicle is the key deterrent to purchasing one, identified by 61 percent (up 6 percentage points). This is followed by winter performance (49%, up 7 points) access to charging stations (48%, compared with 45%) and distance between stations (43%, compared with 41%). Edmontonians would be most motivated to purchase an electric vehicle by the cost being lower than a non-electric one (45%), economics (43%), and incentives (40%). Awareness of public charging stations now stands at 69 percent, steadily increasing over the past two years.

Transportation Choices and Climate Change Impact

Driving a motor vehicle was most frequently mentioned by Edmontonians as a means of transportation used in the past 30 days (75%, up from 69%), followed by being a pedestrian (51%, up from 43%), and being a passenger on private transportation (42%, up from 36%).

Campaigns and Information Sources

One in four residents recall, unaided, seeing or hearing about climate change programs or advertisements from the City of Edmonton, on par with 2021 and 2022. Recall of any specific piece of information was low. In general, Edmonton residents rely on television, Google/Yahoo, word of mouth, Facebook and radio for information. That said, this differs considerably by age, with younger residents relying more on online sources, and older residents relying more on offline sources.



Synopsis

Edmontonians' views on climate change have remained stable in many respects. It is of note that despite notable concern regarding climate change, sizable agreement that action is needed now, and recognition that climate change is caused by human activity, nonetheless there is not widespread support for a tax levy to address climate change. In addition, there has been decline in terms of the incidence of personal actions affecting climate change, including one's transportation choices and home energy choices. There is association of climate change to certain weather events, which may be partially attributable to recent weather events experienced, as residents continue to associate extreme heat and wildfire smoke with climate change.

It is noteworthy that in terms of energy efficiency, 56 percent of Edmontonians have taken action to increase their home's energy efficiency in the past year, up eight percentage points from 2022. And most (85%) Edmontonians view it as important that their home is energy efficient, and place considerable importance on the energy efficiency of the buildings in which they work, study, play, or shop, as three-quarters of residents indicate that energy efficiency is important for such buildings (74%).

Various results point to opportunities to enhance knowledge and understanding of residents. There may be an opportunity to provide additional information to residents on the use of hydrogen as an energy source, as a notable segment did not have definite views on this matter. Moreover, there continues to be an opportunity to further encourage Edmontonians to have emergency preparedness plans, and to take preventative actions in the event of adverse weather. Moreover, there is also opportunity to enhance awareness of programs including the Clean Energy Improvement Program and the EnerGuide Program. Edmontonians value energy efficiency, with financial implications playing a key role. There appears to be an opportunity to assist a notable percentage of the population in understanding how to be more energy efficient, and what actions could be considered a step in the right direction for energy efficiency and climate change management or remediation.



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Feelings Towards Climate Change



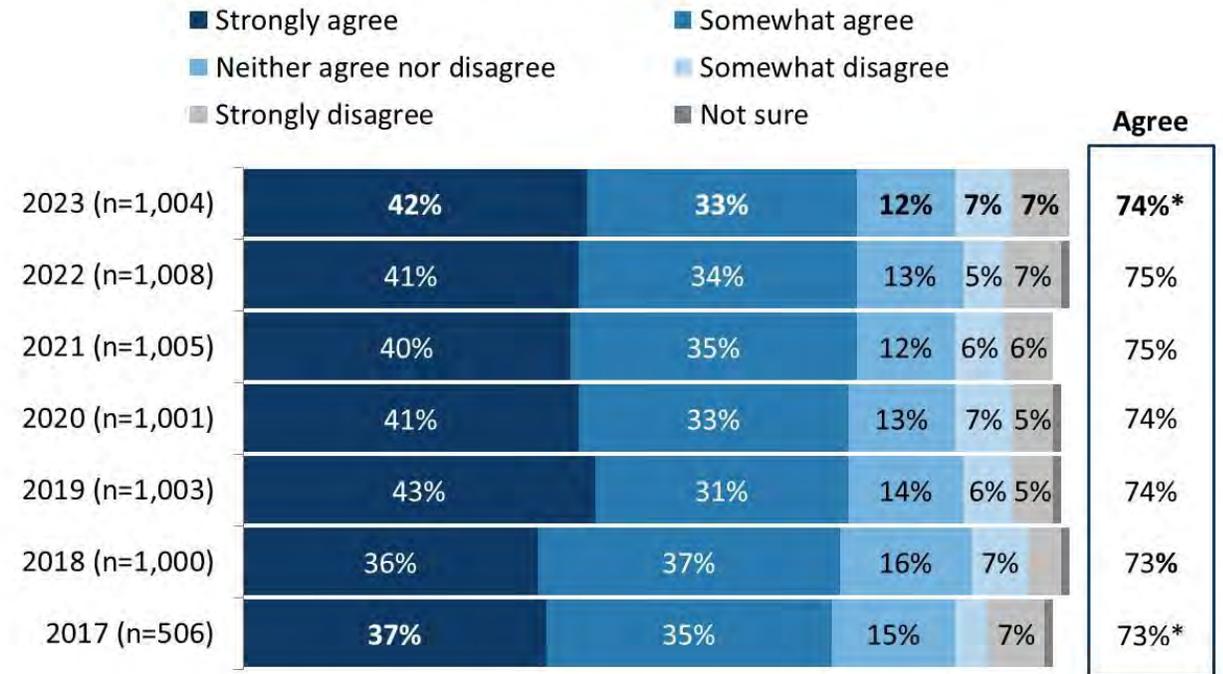
The level of concern with climate change among Edmontonians has remained consistent year-over-year, with three-quarters concerned about climate change, including four in ten who strongly agree that they are concerned.

Concern is elevated among younger Edmonton residents as compared to older residents. More specifically, over eight in ten residents aged 18-34 agree they are concerned about climate change, compared with seven in ten of those older.

	Age		
	18-34	35-54	55+
Agree	83%	70%	71%

I Am Concerned about Climate Change

% agree (strongly/somewhat agree), on 5-pt. agreement scale



Q.1a: The next few statements are about how you **personally** feel about climate change. To what extent do you agree or disagree with the following statements? *Due to rounding. Mentions of 4% or less are represented as a bar.

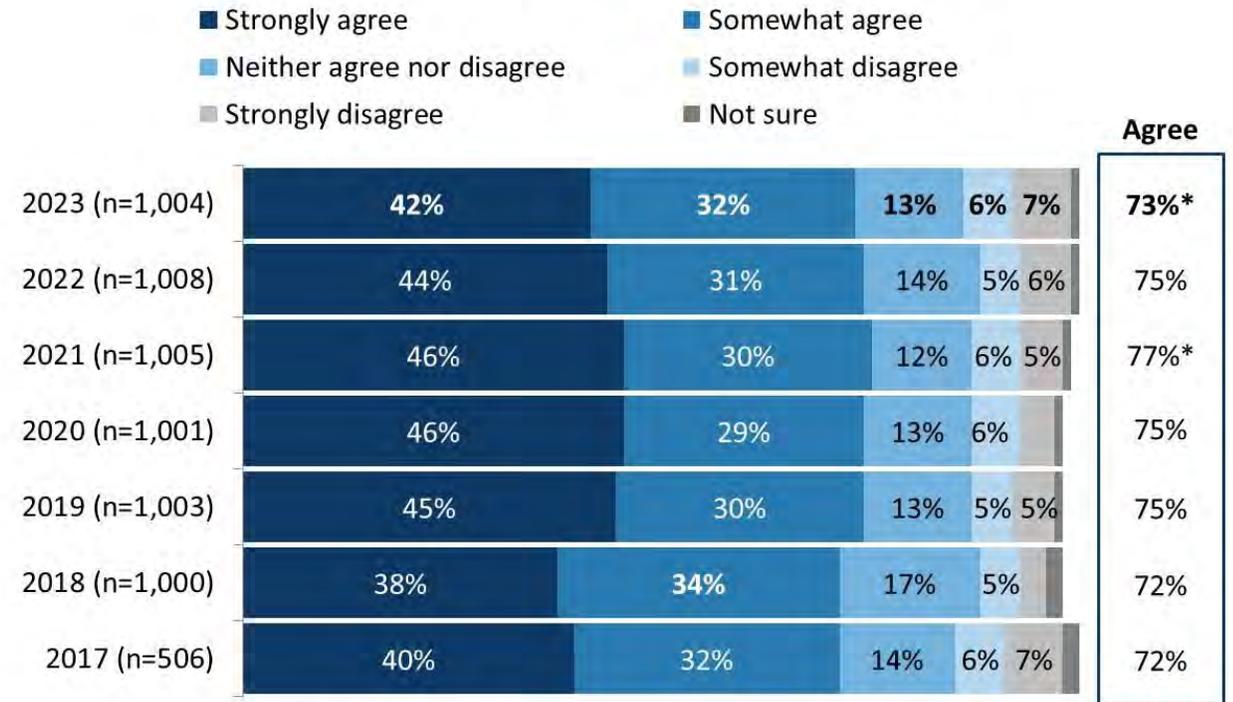
Three-quarters of Edmonton residents believe immediate action is required to address climate change, again consistent with previous years' results.

Once again, there is variation by age with younger residents more likely than older residents to perceive an immediate need for action on climate change.

	Age		
	18-34	35-54	55+
Agree	78%	74%	68%

I Think We Need to Act Now to Address Climate Change

% agree (strongly/somewhat agree), on 5-pt. agreement scale



Q.1f: The next few statements are about how you **personally** feel about climate change. To what extent do you agree or disagree with the following statements? *Due to rounding. Mentions of 4% or less are represented as a bar.



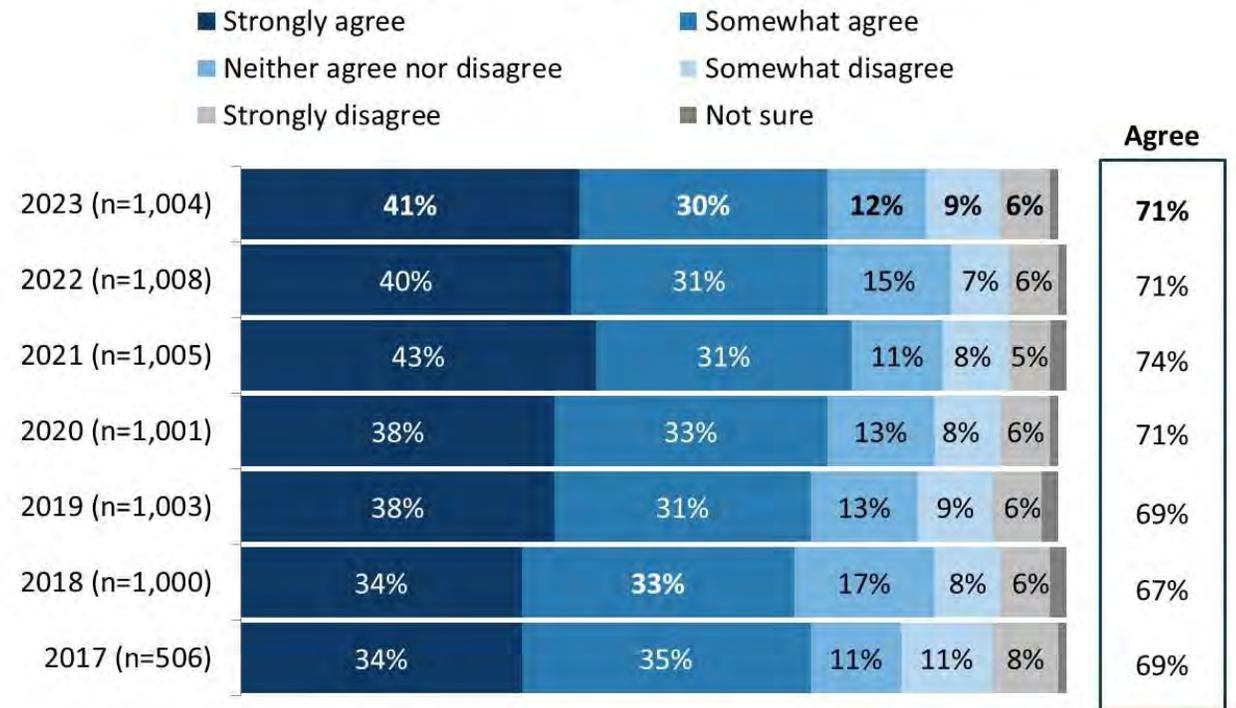
Unchanged from a year ago, seven in ten Edmontonians believe climate change is caused mostly by human activities.

Agreement that climate change is caused mostly by human activities is notably elevated among younger residents.

	Age		
	18-34	35-54	55+
Agree	81%	70%	62%

Climate Change Is Caused Mostly By Human Activities

% agree (strongly/somewhat agree), on 5-pt. agreement scale



Q.1b: The next few statements are about how you **personally** feel about climate change. To what extent do you agree or disagree with the following statements? *Mentions of 4% or less are represented as a bar.*



Desire to Do More to Prevent Climate Change

Similar to 2022 results, two-thirds of Edmontonians want to do more personally to prevent climate change, while the same proportion confirms they are taking action to help address climate change.

The sentiment to want to do more personally to help prevent climate change is elevated among younger residents compared to older residents, and among women compared with men.

	Age			Gender	
	18-34	35-54	55+	Woman	Man
Agree	73%	64%	58%	70%	60%

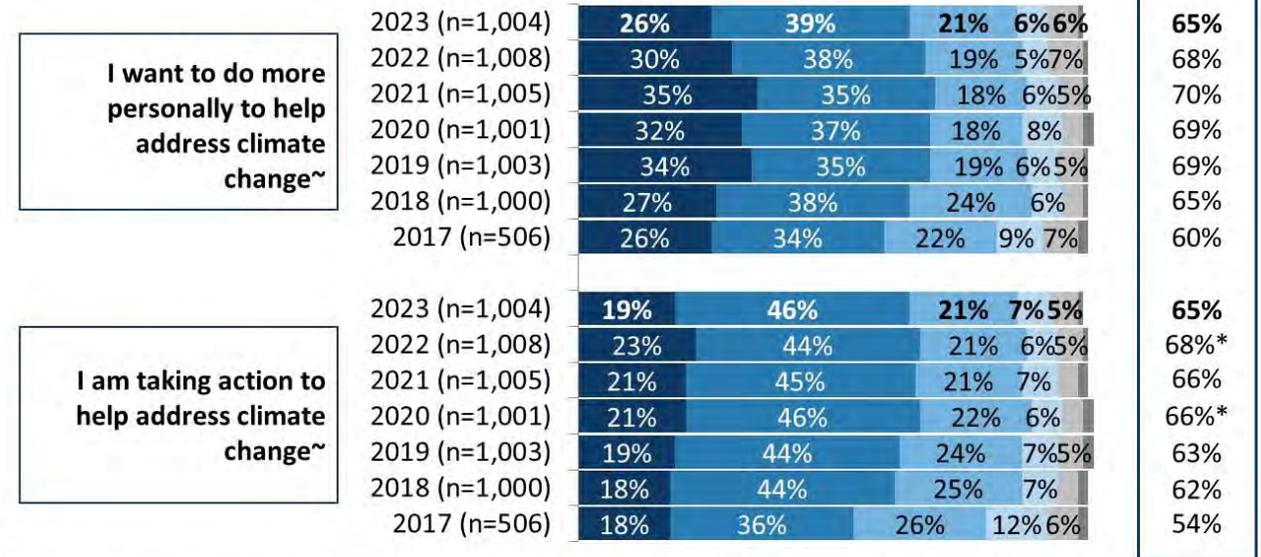
Residents who are post-secondary graduates are more likely to report taking action to help address climate change, as compared to those with lower education levels. As well, the likelihood of taking action to help address climate change is highest among those with moderate household incomes, and lowest among those with lower household incomes.

	Education			Household Income		
	HS or less	Some PS	Grad PS	Lower	Moderate	Higher
Agree	59%	60%	69%	60%	70%	66%

Personal Actions Regarding Climate Change

% agree (strongly/somewhat agree), on 5-pt. agreement scale

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree
- Not sure



Q.1e and g: The next few statements are about how you personally feel about climate change. To what extent do you agree or disagree with the following statements? ~Slight change in wording in 2021, changed from "prevent" to "address". *Due to rounding. Mentions of 4% or less are represented as a bar.



Taking Action to Adapt to Climate Change

Close to two-thirds of Edmontonians confirm they are taking action to adapt to climate change.

The 2023 finding (64%) reflects an increase over 2022 (52%) and 2021 (46%), but the wording was changed this year, with the removal of specific examples, which may have affected results.

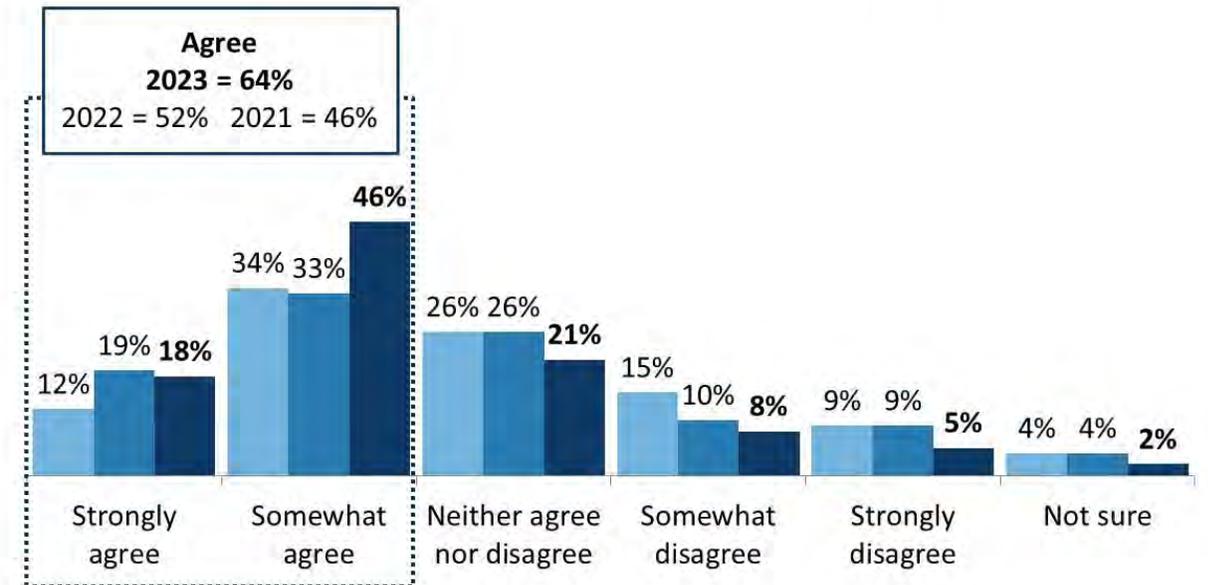
Younger residents aged 18-34 are more likely to agree, compared to their older counterparts.

	Age		
	18-34	35-54	55+
Agree	74%	59%	60%

I Am Taking Action to Adapt to a Changing Climate

% agree (strongly/somewhat agree), on 5-pt. agreement scale

2021 (n=1,005) 2022 (n=1,008) 2023 (n=1,004)



Q.7k: To what extent do you agree or disagree with the following statement: I am taking action to adapt to a changing climate. *New question in 2021. Slight question wording change in 2023.*

Edmontonians are divided in their willingness to pay a tax levy to address climate change.

A new question added this year, 34 percent of Edmontonians agree they are willing to pay a tax levy to address climate change, while a higher percentage (45%) disagree, i.e., they are not willing to pay a tax levy.

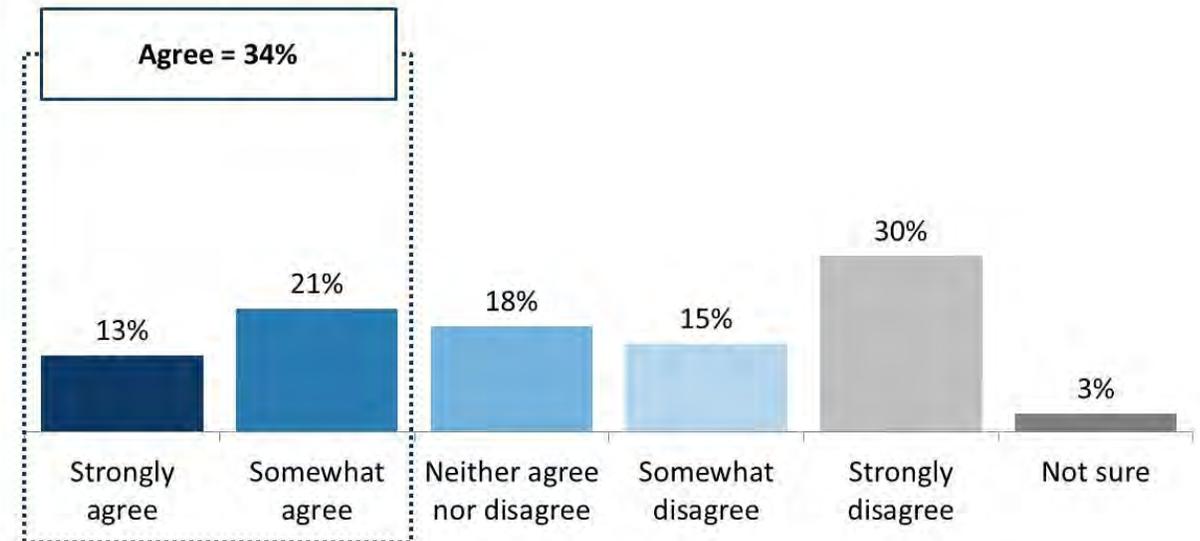
	Age		
	18-34	35-54	55+
Agree	45%	29%	28%
Disagree	34%	47%	55%

There is a notable age difference, with those 18 to 34 years of age more likely to be willing to pay a tax levy to address climate change. In fact, a clear majority disagree among the 55 or older age segment.

	Household Income		
	Lower	Moderate	Higher
Agree	30%	41%	36%

There is also a difference by household income, with those with the lowest household incomes least likely and those with a moderate household income most likely to be willing to pay a tax levy.

I Am Willing to Pay a Tax Levy to Address Climate Change



Q.1h: The next few statements are about how you personally feel about climate change. To what extent do you agree or disagree with the following statements? (n=1,004) *New question in 2023.*



Perceived Opinions of Edmontonians on Climate Change

As in previous years, residents are more so inclined to agree that they themselves hold progressive perceptions vis-à-vis issues related to climate change, as compared to the general public of Edmonton as a whole. Certain measures remain consistent with results from last year, together with modest declines in agreement on two questions.

This year, there is a modest decline in agreement in terms of thinking that residents *want to do more personally to help address climate change*, and that residents are *taking action to address climate change*.

In general, younger residents are more likely than older residents to believe that Edmontonians as a whole hold progressive perceptions concerning climate change.

Opinions on Climate Change

% agree (strongly/somewhat agree), on 5-pt. agreement scale

	Perceived Agreement Among Edmontonians							GAP* (% Personally - % Edmontonians)						
	2017 (n=506)	2018 (n=1,000)	2019 (n=1,003)	2020 (n=1,001)	2021 (n=1,005)	2022 (n=1,008)	2023 (n=1,004)	2017 (n=506)	2018 (n=1,000)	2019 (n=1,003)	2020 (n=1,001)	2021 (n=1,005)	2022 (n=1,008)	2023 (n=1,004)
Climate change is caused mostly by human activities	48%	54%	52%	55%	59%	58%	56%	20%	14%	17%	16%	15%	13%	15%
Concerned about climate change	39%	47%	47%	47%	52%	56%	55%	34%	25%	27%	27%	23%	19%	19%
Need to act now to address climate change	41%	48%	50%	49%	52%	56%	53%	31%	25%	25%	26%	25%	19%	20%
Want to do more personally to help address climate change~	35%	44%	44%	43%	46%	51%	46%	25%	21%	25%	26%	24%	17%	19%
Taking action to address climate change~	25%	34%	32%	32%	36%	44%	39%	30%	28%	31%	34%	30%	24%	26%

Q.2a, b, e, f, g: The next few statements are about how you think **Edmontonians** feel about climate change. To what extent do you agree or disagree with the following statements? *The GAP figures presented here are based on calculations rounded to the nearest percent. ~Slight change in wording in 2021, changed from "prevent" to "address".



City of Edmonton's Actions to Address Climate Change

Similar to 2022, 43% of Edmontonians want the City to increase its efforts to address climate change. Two in ten believe efforts should be maintained, while the same proportion is uncertain whether the City needs to change its effort. Thirteen percent say it should decrease its efforts.

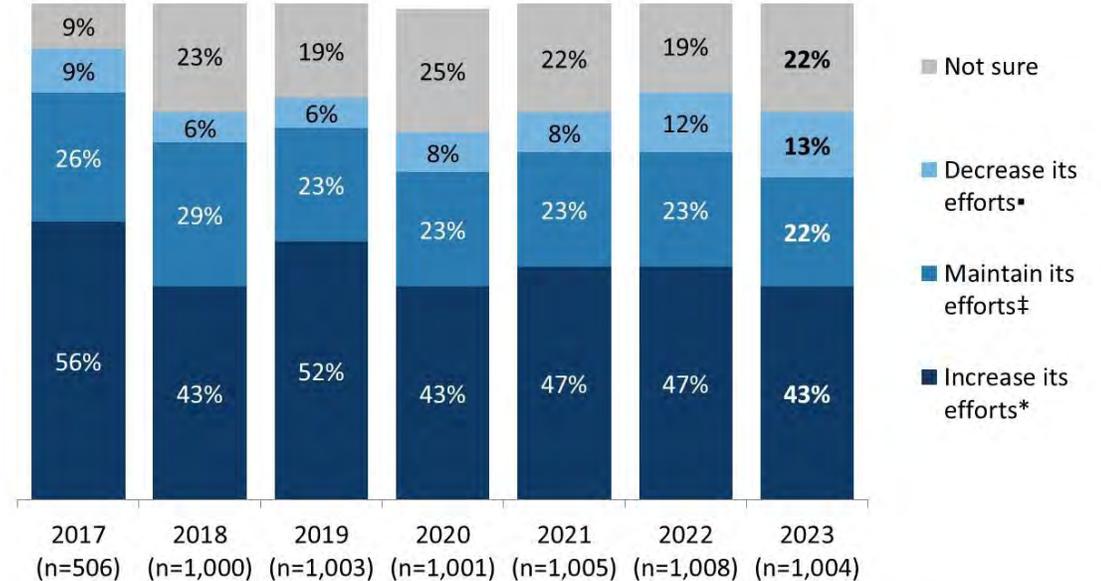
Opinion that the City of Edmonton should increase its efforts to address climate change declines with age. As well, those with high school education or less are less likely to perceive a need to increase efforts, in comparison with those with some postsecondary education.

	Age			Education		
	18-34	35-54	55+	HS or less	Some PS	Grad PS
Increase	55%	44%	30%	35%	47%	44%
Maintain	16%	25%	26%	28%	16%	23%
Decrease	12%	13%	15%	8%	15%	14%
Not sure	17%	19%	29%	30%	22%	19%

In addition, uncertainty around whether the City should adjust its efforts is more common among women, those with lower household incomes, and those with lower education levels.

	Gender		Household Income		
	Woman	Man	Lower	Moderate	Higher
Not sure	27%	17%	25%	20%	15%

Perception of the City of Edmonton's Efforts to Address Climate Change



Q.3: Based on what you may know or have heard about climate change and what the City is doing about it, do you think the City should increase, decrease or maintain its efforts to address climate change? *Change in question wording in 2020, previously: "Do you think the City of Edmonton [should be doing more than it currently is/is currently doing the right amount/should be doing less than it currently is/not sure] to address climate change?"* *Change in wording in 2020, previously: "Should be doing more". ‡Change in wording in 2020, previously: "Currently doing the right amount". •Change in wording in 2020, previously: "Should be doing less".



Impact on Climate Change

Three-quarters of residents agree that walking, cycling or taking public transit instead of driving a car can reduce the impact on climate change, similar to 2022 results. However, since last year there has been a decline in the percentage of Edmontonians agreeing that fossil fuel-based home heating/cooling and electricity use contributes to climate change (65%, down 6 percentage points), and that their transportation choices have an impact on climate change (67%, down 6 points). It should be noted that the fossil fuel-based question had a wording change, which may affect results, and thus tracking.

Agreement on all three measures is strongest among those with moderate household incomes, and lowest among those with higher household incomes.

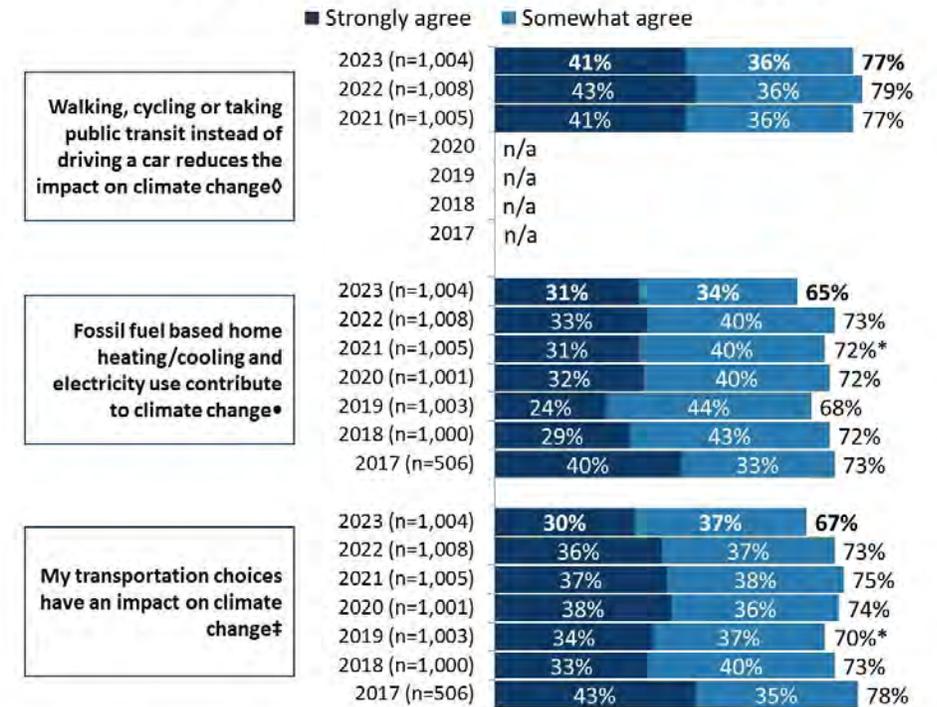
	Household Income		
	Lower	Moderate	Higher
Walking, cycling or taking public transit (instead of driving a car) reduces the impact on climate change	79%	83%	73%
Fossil fuel based home heating/cooling and electricity use contribute to climate change	66%	73%	62%
My transportation choices have an impact on climate change	66%	76%	66%

Agreement that alternatives to driving reduces the impact on climate change, and that transportation choices impact climate change, is stronger among younger residents.

	Age		
	18-34	35-54	55+
Walking, cycling or taking public transit (instead of driving a car) reduces the impact on climate change	85%	77%	70%
My transportation choices have an impact on climate change	72%	70%	60%

Impact of Actions on Climate Change

% agree (strongly/somewhat agree), on 5-pt. agreement scale



Q.4f, g, i: To what extent do you agree or disagree with the following statements about climate change? [∅]Due to rounding. [∅]New statement in 2021. ^{*}Change in wording in 2023, previously: "Home heating/cooling and electricity use contribute to climate change" and in 2019, previously: "Home heating/cooling and electricity use contribute to greenhouse gas emissions". [‡]Change in wording in 2019, previously: "My transportation choices impact greenhouse gas emissions".



Two-thirds of Edmontonians agree that their household energy choices have an impact on climate change, down five percentage points since 2022. Also down, just over one-half of residents agree that driving electric vehicles reduces the impact on climate change (down 11 points), albeit the latter statement had a change in wording which might explain the notable decline.

Agreement that their household’s energy use and what they do in their home has an impact on climate change is elevated among those with moderate household incomes, as compared with those with lower or higher household incomes.

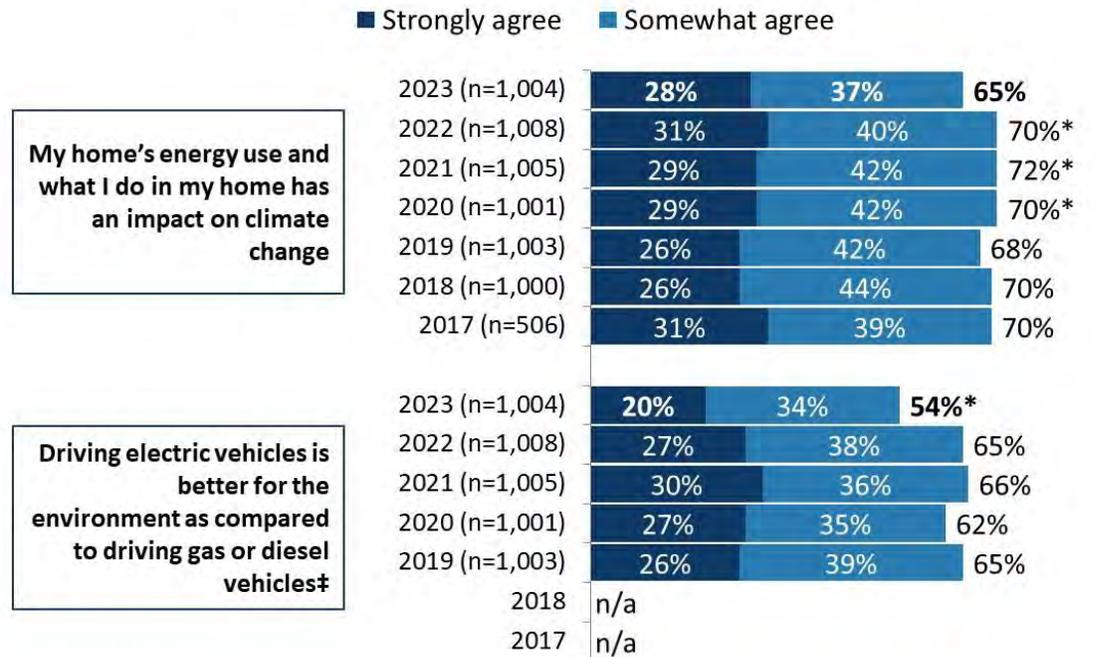
	Household Income		
	Lower	Moderate	Higher
Agree	63%	74%	64%

Agreement that driving electric vehicles is better for the environment is stronger among younger residents. Across quadrants, agreement is highest in the Southwest and lowest in the Northeast.

	Age			Quadrant			
	18-34	35-54	55+	Northeast	Northwest	Southwest	Southeast
Agree	65%	56%	41%	48%	52%	61%	55%

Impact of Actions on Climate Change

% agree (strongly/somewhat agree), on 5-pt. agreement scale



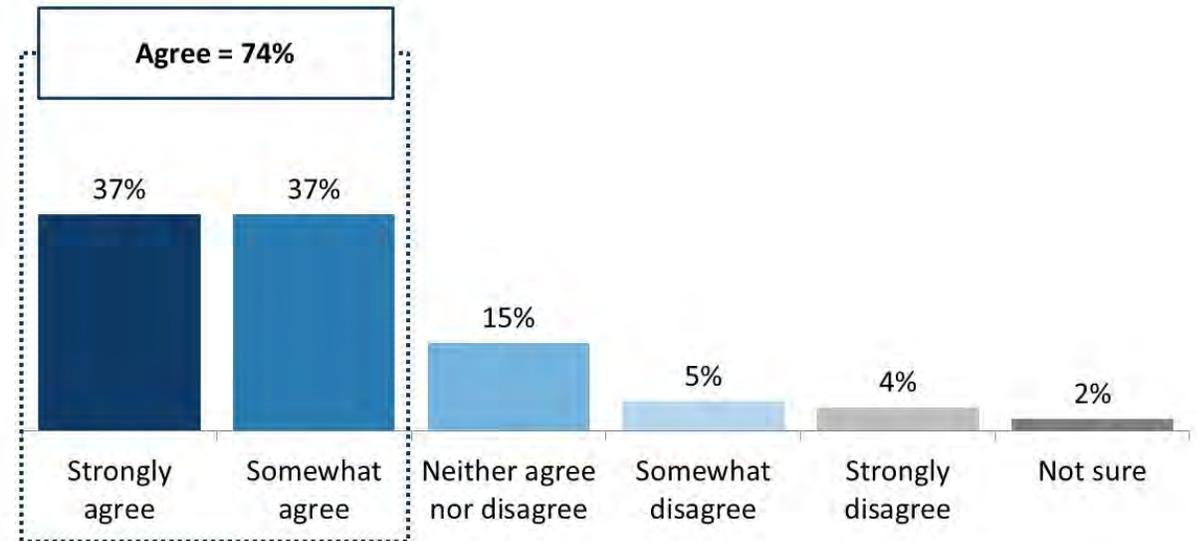
Q.4h and p: To what extent do you agree or disagree with the following statements about climate change? *Due to rounding
 ~Change in wording in 2019, previously: "My home and what I do in it has an impact on climate change". #Change in
 wording in 2023, previously: "Driving electric vehicles instead of gas/diesel vehicles reduces the impact on climate change"
 and in 2021, previously: "Driving electric vehicles instead of combustion vehicles reduces the impact on climate change."

Three-quarters of Edmonton residents agree that having solar panels on their home is better for the environment than using other energy sources.

Agreement is elevated among younger residents, and those with low to moderate household incomes, as compared to their counterparts.

	Age			Household Income		
	18-34	35-54	55+	Lower	Moderate	Higher
Agree	79%	75%	68%	78%	79%	68%

Having Solar Panels on Your Home Is Better for the Environment than Using Other Energy Sources



Q.4o: To what extent do you agree or disagree with the following statements about climate change? (n=1,004) *New question in 2023.*

One-half of Edmontonians agree that using hydrogen as an energy source is better for the environment than using other energy sources.

Disagreement is limited at seven percent, with 42 percent either more neutral or uncertain on the issue.

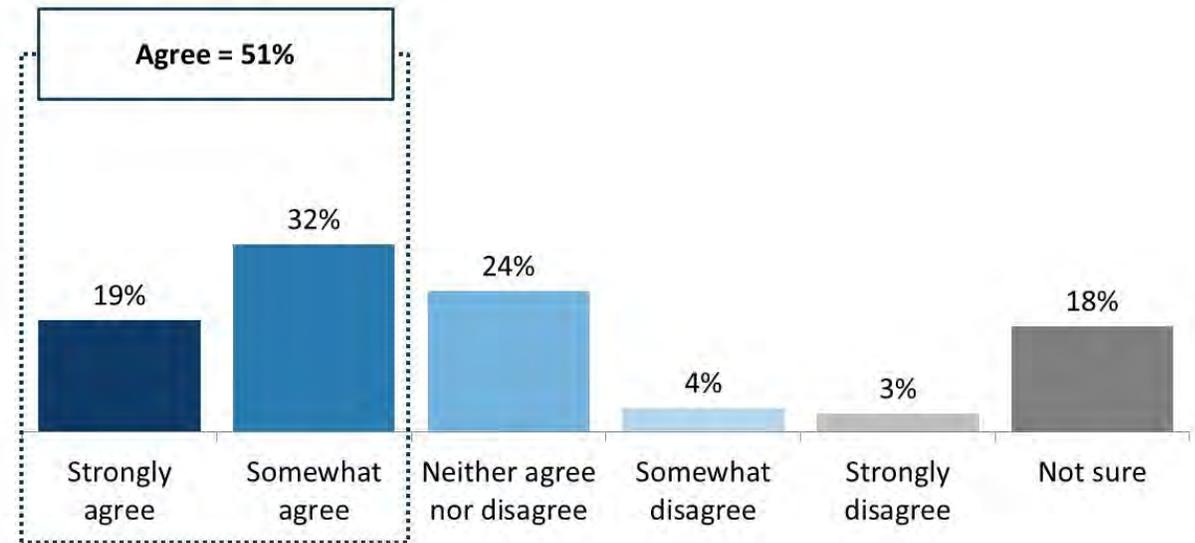
Agreement is stronger among men than women, while women are more inclined to be uncertain.

	Gender	
	Woman	Man
Agree	42%	61%
Not sure	26%	11%

Agreement is lowest in the Northeast.

	Quadrant			
	Northeast	Northwest	Southwest	Southeast
Agree	44%	51%	55%	54%

Using Hydrogen as an Energy Source Is Better for the Environment than Using Other Energy Sources



Q.4r: To what extent do you agree or disagree with the following statements about climate change? (n=1,004) *New question in 2023.*



Consistent with 2022, three-quarters of Edmontonians are comfortable talking about climate change with family, friends, or colleagues, but under one-half attest that they regularly do so.

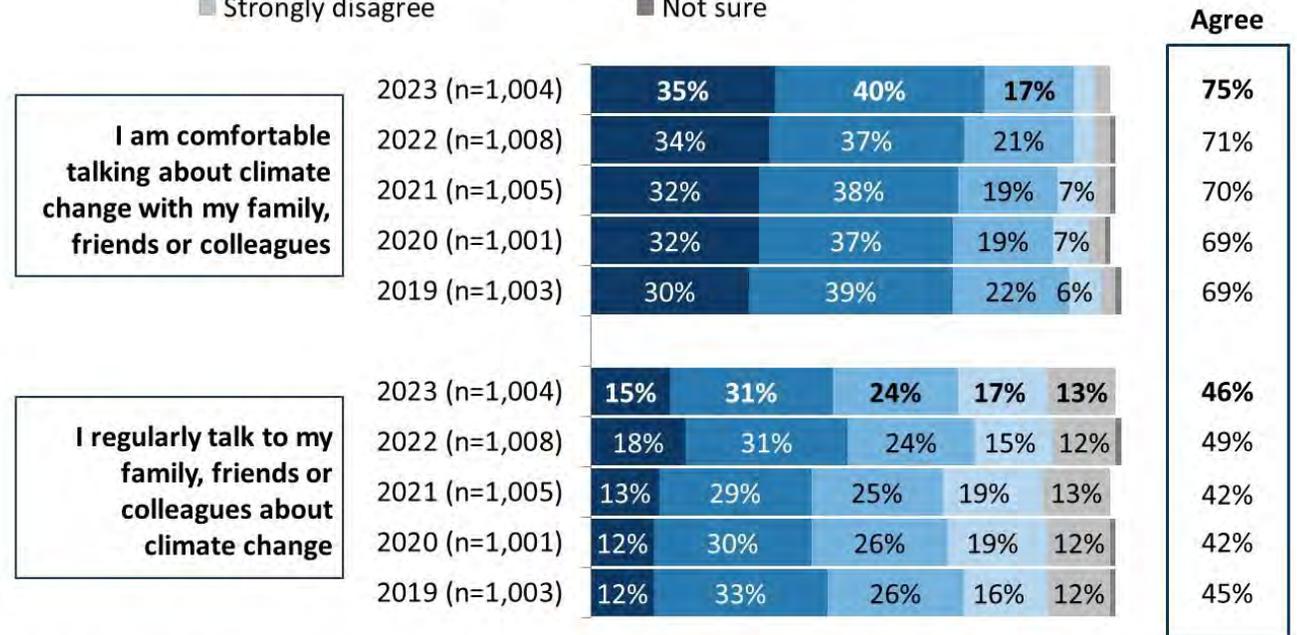
Of note, those 18-34 are most likely to regularly talk about climate change, while those 35-54 are least likely.

	Age		
	18-34	35-54	55+
Agree	51%	40%	47%

Talking About Climate Change

% agree (strongly/somewhat agree), on 5-pt. agreement scale

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree
- Not sure



Q.5a-b: To what extent do you agree or disagree with the following statements about climate change? *Mentions of 4% or less are represented as a bar.*



One-quarter of Edmonton residents have heard of climate resilience. Of these, the term is most often defined as adapting/mitigating environmental changes due to climate change, followed by anticipating or preparing for climate change consequences and fighting or preventing climate change.

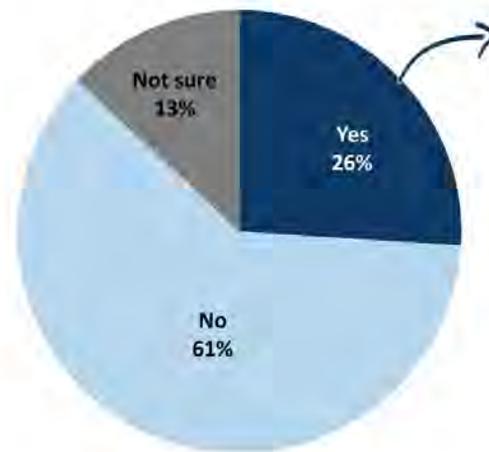
There are selected notable demographic variations in terms of having heard of climate resilience with younger residents, men, those with higher household incomes, those with higher education levels, and homeowners more likely to have heard of it as compared to their counterparts.

	Age			Gender	
	18-34	35-54	55+	Woman	Man
Yes	40%	20%	18%	20%	31%

	Education			Household Income		
	HS or less	Some PS	Grad PS	Lower	Moderate	Higher
Yes	13%	25%	29%	17%	28%	34%

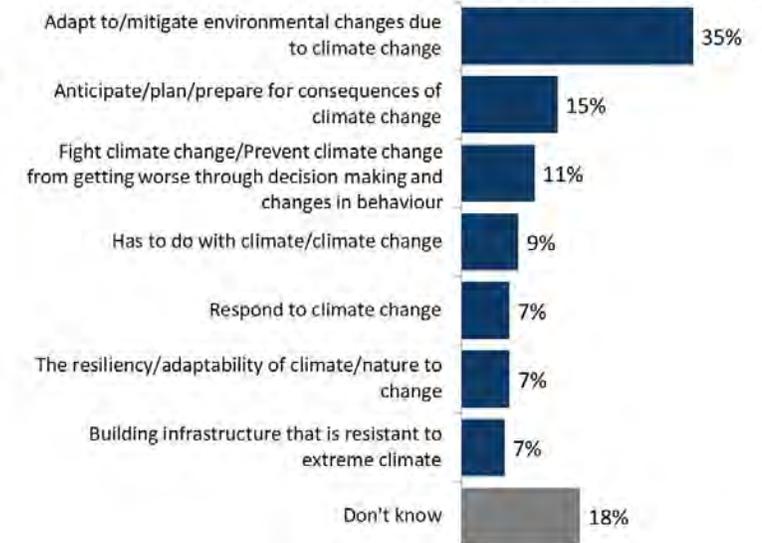
	Home Ownership		Quadrant			
	Own	Rent/Lease	Northeast	Northwest	Southwest	Southeast
Yes	29%	19%	20%	27%	24%	30%

Heard of Expression "Climate Resilience"



What Expression "Climate Resilience" Means

Key unaided mentions among those who have heard of the expression



Q.7MH: Prior to today, had you ever heard the expression "climate resilience"? (n=1,004) | Q.7MI: [IF 'YES' IN Q.7MH] To the best of your knowledge, what does the expression "climate resilience" mean? (n=222) *New questions in 2023.*

Across quadrants, those in the Southeast are most likely and those in the Northeast are least likely to have heard of the expression.



Economic and Employment Impacts

There has been a decline in the percentage of Edmontonians agreeing that investing in energy efficiency provides job opportunities for Edmonton, with two-thirds now agreeing. Reflecting more stability, two-thirds agree that transitioning to renewable sources of energy provides job opportunities for Edmonton, and six in ten agree that efforts to prevent climate change present an economic opportunity of Edmonton.

For all three measures, agreement declines with age.

	Age		
	18-34	35-54	55+
Investing in energy efficiency provides job opportunities	73%	69%	58%
Transitioning to renewable sources of energy provides job opportunities	76%	66%	57%
Efforts to prevent climate change present an economic opportunity	68%	63%	53%

Agreement that transitioning to renewable sources provides job opportunities for Edmonton is highest among those with moderate incomes.

	Household Income		
	Lower	Moderate	Higher
Transitioning to renewable sources of energy provides job opportunities	64%	74%	66%

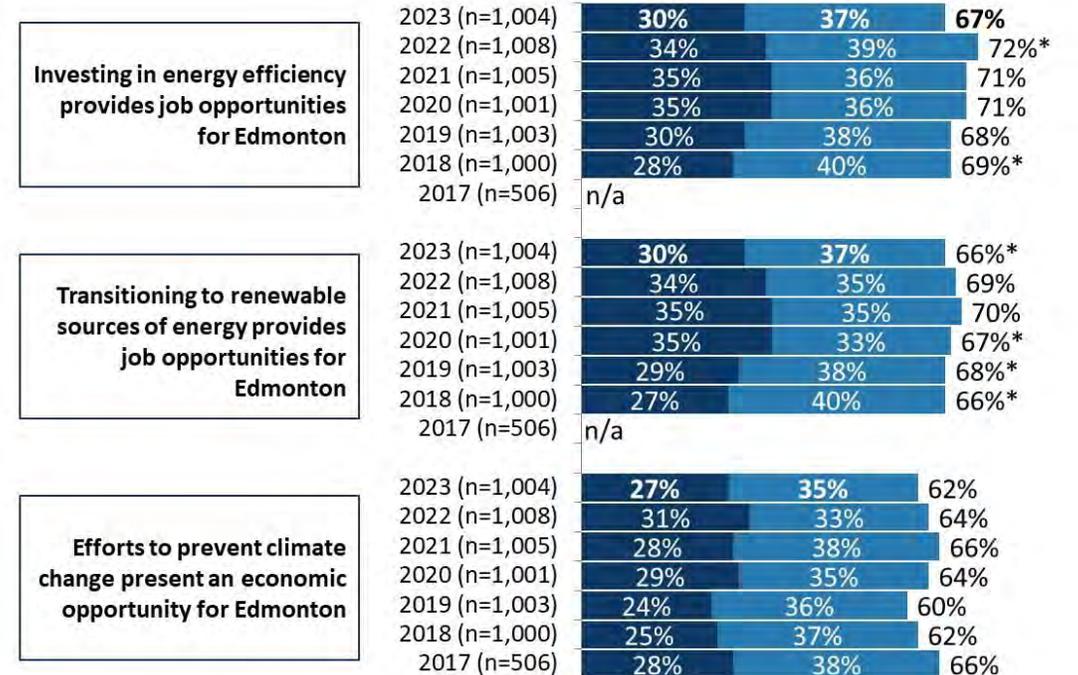
Agreement that investing in energy efficiency provides job opportunities for Edmonton increases with level of education.

	Education		
	HS or less	Some PS	Grad PS
Investing in energy efficiency provides job opportunities	59%	64%	70%

Economic and Employment Impacts

% agree (strongly/somewhat agree), on 5-pt. agreement scale

■ Strongly agree ■ Somewhat agree



Q.4a-c: To what extent do you agree or disagree with the following statements about climate change? *Due to rounding.



NARRATIVE
RESEARCH

Weather and Climate Change



Three-quarters of residents agree that climate change is linked to increased frequency and intensity of events like flooding, heat waves and forest fires, while seven in ten agree with each of climate change is affecting Edmonton's weather, and climate change negatively impacts the health and well-being of individuals.

There has been an increase in agreement regarding climate change being linked to increased frequency and intensity of events, and a decline in agreement regarding the impact on health and well-being. However, both statements had wording changes which could contribute to the change.

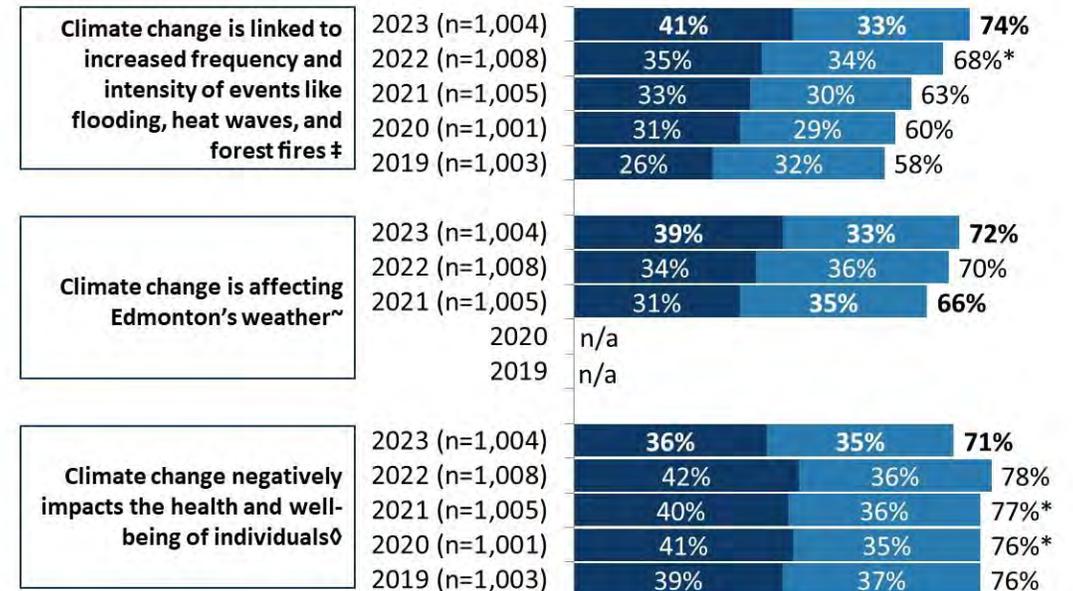
Agreement with all three statements trends downward with age.

	Age		
	18-34	35-54	55+
Climate change is linked to increased frequency and intensity of events like flooding, heat waves, and forest fires	79%	72%	70%
Climate change is affecting Edmonton's weather	79%	69%	67%
Climate change negatively impacts the health and well-being of individuals	80%	68%	66%

Impact of Climate Change

% agree (strongly/somewhat agree), on 5-pt. agreement scale

■ Strongly agree ■ Somewhat agree



Q.4m, n, q: To what extent do you agree or disagree with the following statements about climate change? *Due to rounding. ‡Wording change in 2023, previously: "Human caused climate change is linked to events like tornados, flooding, hurricanes and mega forest fires." ~New statement in 2021. ◊Wording change in 2023, previously: "Climate change impacts the health and well-being of individuals."



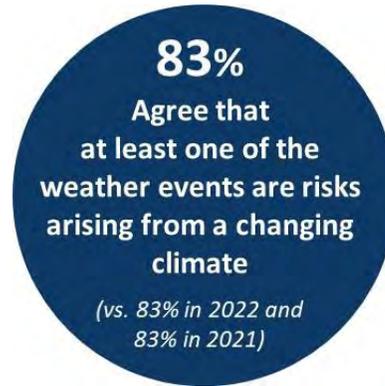
Impact of Climate Change on Weather Events

A majority of Edmontonians continue to agree that the incidence of inclement weather events is affected by a changing climate. In particular, three-quarters of residents agree that the risk of extreme heat events and increased wildfire smoke arises from climate change.

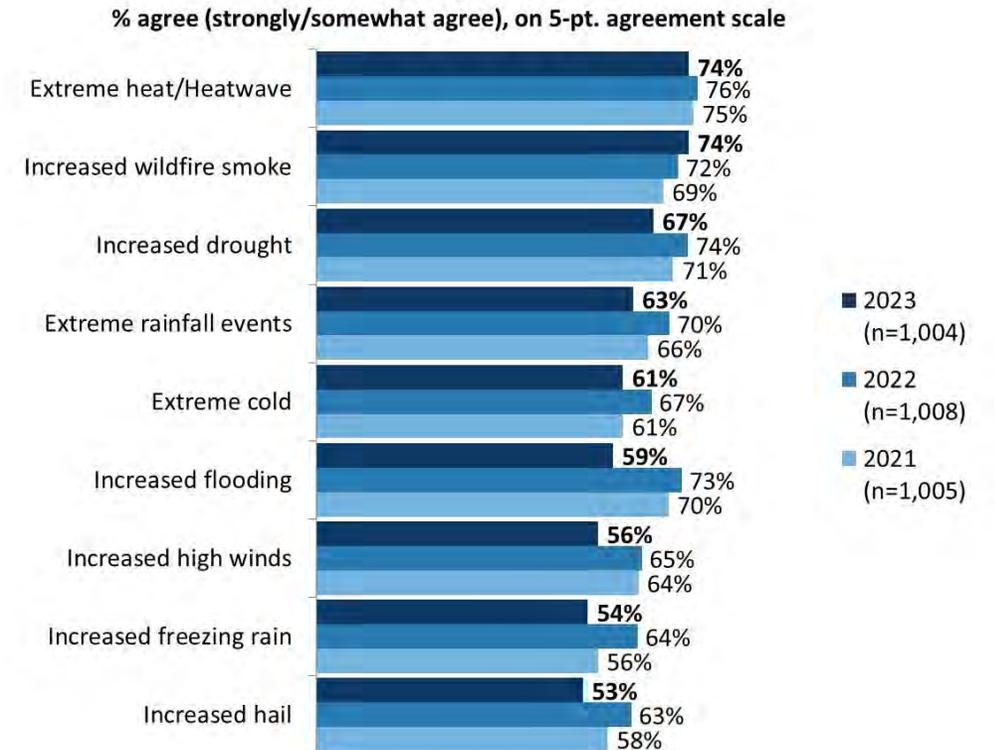
With the exception of the top two events noted above, fewer Edmontonians this year than in 2022 agree that the various events are a risk arising from climate change. The most notable decline is for increased flooding (down 14 percentage points).

Those under 55 years of age are more likely than those older to report a higher average number of events, on average, are risks arising from climate change.

	Age		
	18-34	35-54	55+
Average # of Items Agree	5.9	5.7	5.1



Extent Agree that Weather Events are Risks Arising from a Changing Climate



Q.6a-i: To what extent do you agree or disagree that the following are risks arising from a changing climate? *Note: New question in 2021. *Due to rounding.*



Impact of Climate Change on Weather Events

Virtually all Edmontonians have experienced at least one extreme weather event in the past two years, with this proportion increasing year-over-year. Notably, experiences with increased wildfire smoke and extreme heat, and to a lesser extent, increased drought have risen this year, while increased high winds, freezing rain, and hail have declined.

Close to nine in ten Edmontonians report increased wildfire smoke, an increase of 23 percentage points over 2022. Eight in ten report extreme heat/heatwave, up 11 points. Increased drought is up eight points, with one-half reporting it.

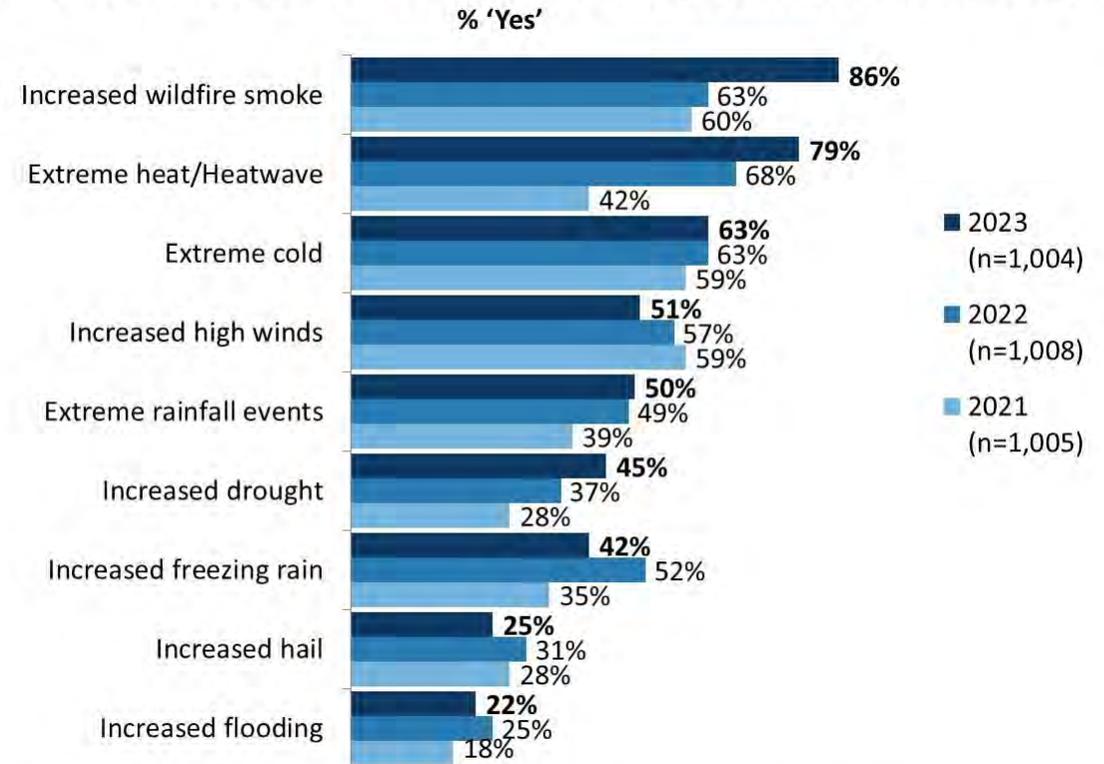
Conversely, there have been certain marginal declines in other events including increased high winds (down 6 points) increased freezing rain (down 10 points), and increased hail (down 6 points).

Women, those under 55 years of age, and those without any post-secondary education are more likely to report a higher average number of events, as compared to their counterparts.

95%
Have experienced at least one of the weather events in Edmonton in the past 2 years
(vs. 90% in 2022 and 86% in 2021)

4.6
Average number of weather events experienced
(vs. 4.5 in 2022 and 3.7 in 2021)

Experienced Weather Events in Edmonton in Past 2 Years



Q.7a-i: Have you experienced any of these weather events in Edmonton in the past 2 years? *Note: New question in 2021.*

Eight in ten Edmonton homeowners have taken at least one of the four actions examined, with trimming weak and broken branches the most prevalent.

Seven in ten have trimmed weak or broken tree branches. A large minority have done each of landscaping with plants and trees that require less water, securing loose shingles from winds, and floodproofing their property.

The average number of actions taken is more so elevated among 18 to 34-year-old homeowners, compared with those older. Those who own fully detached houses have taken a higher number of actions, on average, while those who own a condo or apartment have taken the lowest number of actions, on average.

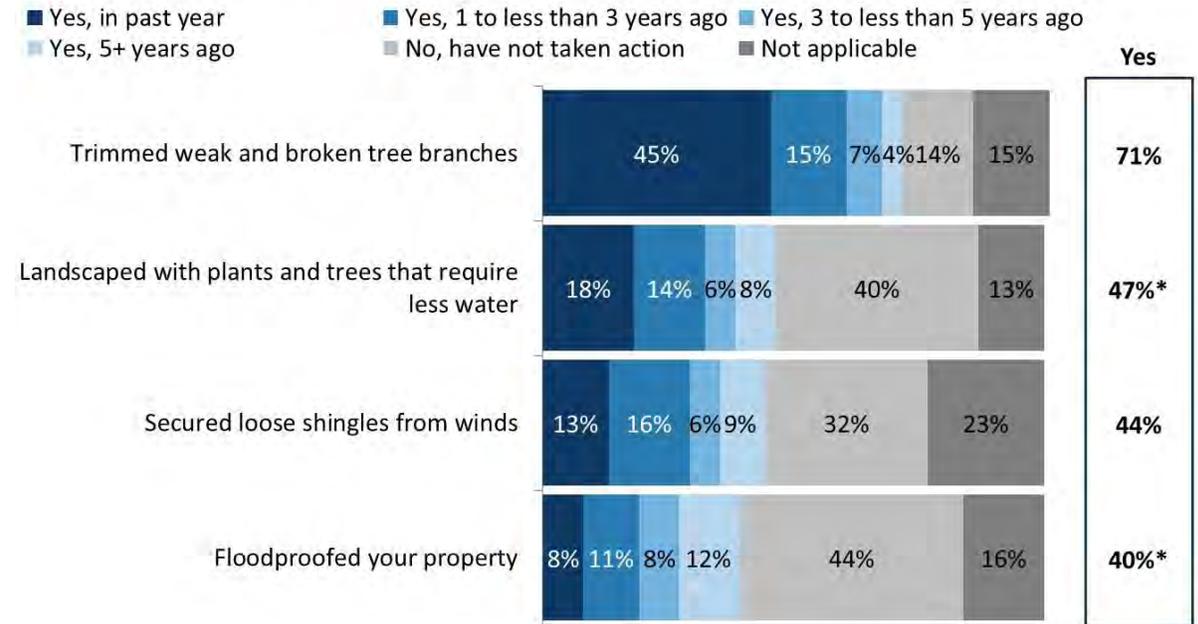
82%
Have taken at least one action in their home or on their property

2.0
Average number of actions taken

	Age			Home Type		
	18-34	35-54	55+	Fully detached	Semi/Duplex /Town/Row	Condo/Apt
Average # of Items Agree	2.7	1.6	2.0	2.2	1.8	1.2

Actions Taken in Home or on Property

Among those who own their primary place of residence in Edmonton



Q.7Ma, b, f, g: [IF OWN PRIMARY PLACE OF RESIDENCE IN EDMONTON IN Q.7L] Which of the following actions have you taken in your home or on your property? (n=697) *New question in 2023. *Due to rounding.*

Two-thirds of residents have taken at least one of the three actions examined, with sealing drafts to maintain good indoor air quality the most prevalent.

Just over one-half have sealed drafts to maintain good indoor air quality, while four in ten have an emergency preparedness plan, and one-third have installed a rain barrel.

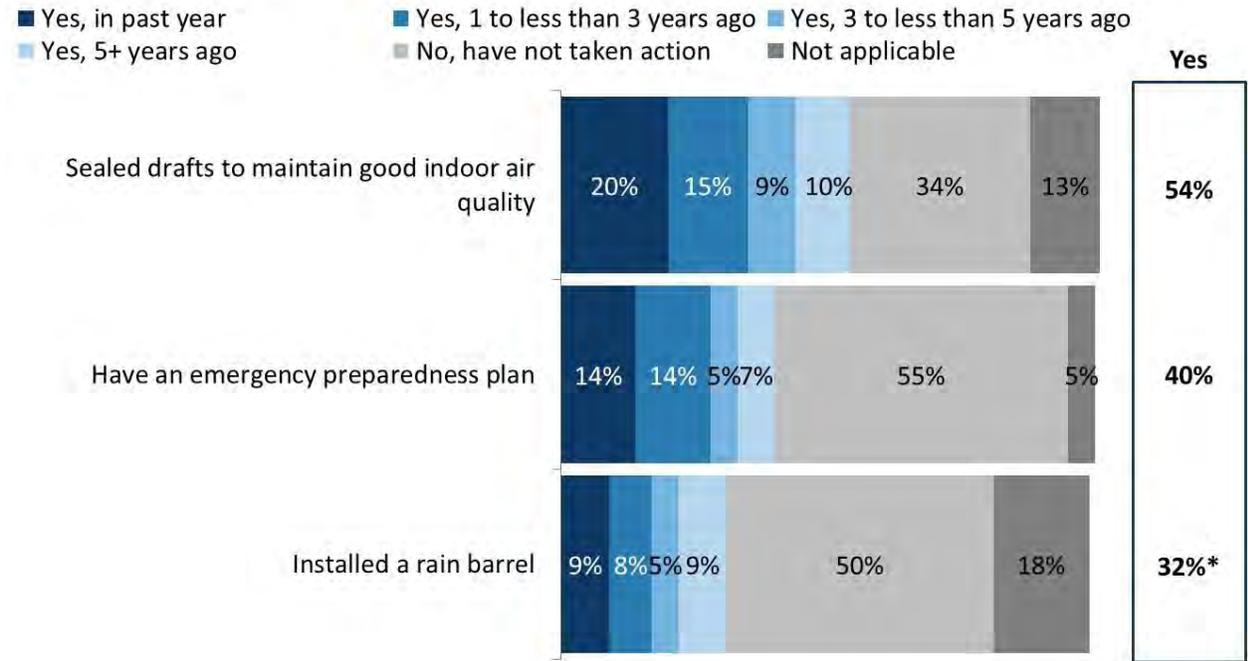
The average number of actions increases with household income. Homeowners are more likely than renters/leaseholders to take these actions. Those in fully detached houses are most likely and those in condos or apartments least likely to have taken the various actions.

67%
Have taken at least one action in their home or on their property

1.3
Average number of actions taken

	Household Income			Home Ownership		Home Type		
	Lower	Moderate	Higher	Own	Rent/Lease	Fully detached	Semi/Duplex/Town/Row	Condo/Apt
Average # of Items Agree	1.1	1.3	1.5	1.4	0.9	1.5	1.1	0.8

Actions Taken in Home or on Property



Q.7Mc-e: Which of the following actions have you taken in your home or on your property? (n=1,004) *New question in 2023. *Due to rounding.*



NARRATIVE
RESEARCH

Energy Efficiency



Taken Actions to Increase Energy Efficiency in the Home

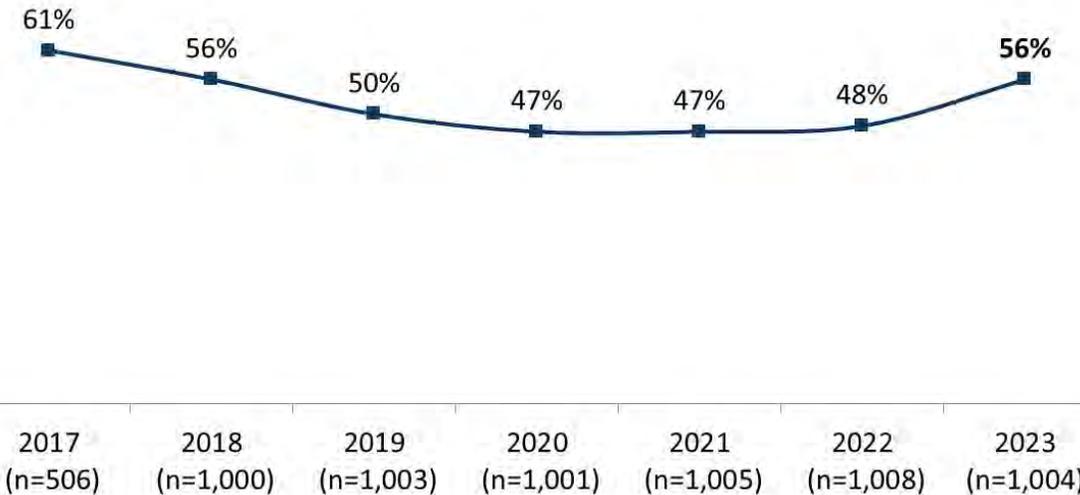
Reflecting an increase from 2022, close to six in ten Edmontonians have taken actions to increase the energy efficiency of their home in the past year.

The likelihood to take actions increases with household income. As well, those who own their home are more likely to take action than are those who rent or lease. Residents in fully detached housing are most likely to take action, while those in a condo/apartment are least likely.

	Household Income			Home Ownership		Home Type		
	Lower	Moderate	Higher	Own	Rent/Lease	Fully detached	Semi/Duplex/Town/Row	Condo/Apt
Yes	50%	56%	64%	65%	40%	65%	54%	41%

Taken Actions to Increase Home's Energy Efficiency in Past Year

% 'Yes'



Q.8: Have you taken any actions to increase the energy efficiency of your home in the past year?



Actions Taken to Increase Energy Efficiency in the Home

When provided aided examples, a strong majority of Edmontonians indicate they have taken actions in their home to increase energy efficiency. On average, residents took approximately four of 11 actions in their home.

The most prevalent actions taken are purchasing the most efficient washer and/or dryer, installing a high-efficiency furnace, installing energy efficient windows, and insulating the basement.

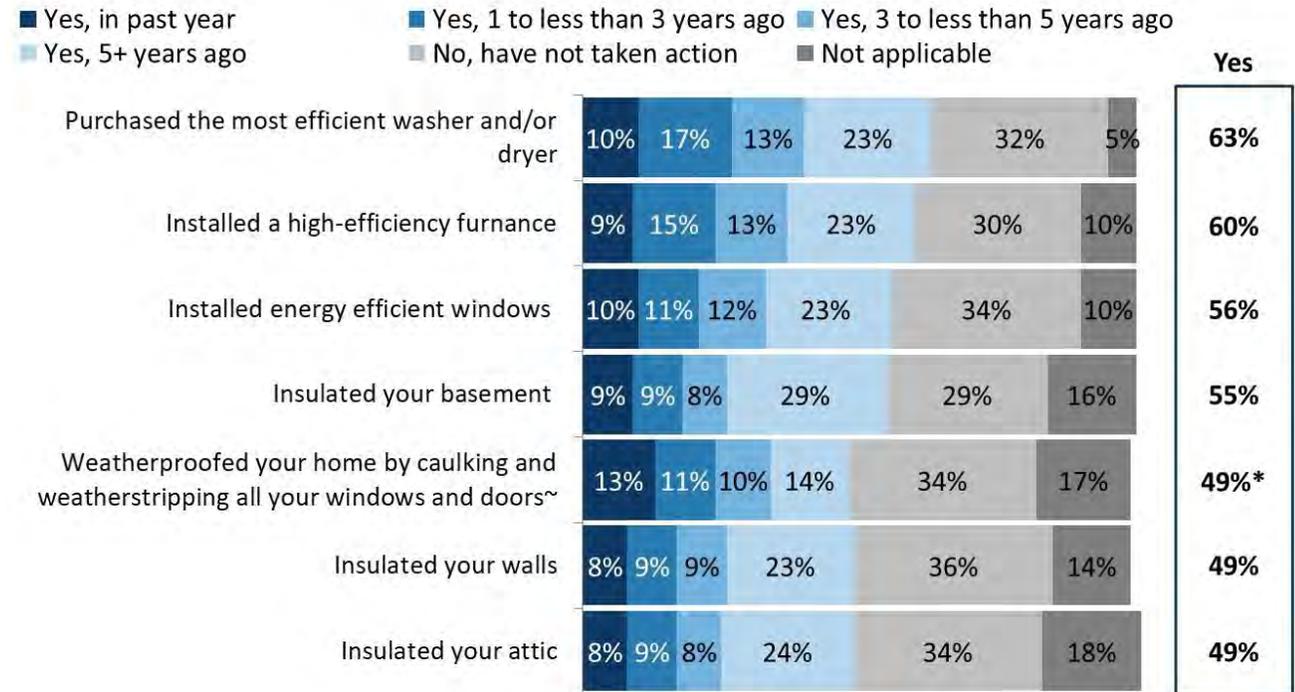
While most of the items were presented to homeowners only, weatherproofing the home by caulking and weatherstripping windows and doors was posed to all. One-half confirm they have done this, and one-quarter have done so in the past three years. Homeowners are more apt to have done so as compared to renters or leasers (58% versus 31%).

87%
Have taken actions in home

4.2
Average number of actions taken in home

Actions Taken in Home

Among those who own their primary place of residence in Edmonton



Q.9b, c, e-m: [IF OWN PRIMARY PLACE OF RESIDENCE IN EDMONTON IN Q.7L] Which of the following actions have you taken in your home? (n=697) New question in 2023. ~Asked to all respondents (n=1,004). *Due to rounding.



Actions Taken to Increase Energy Efficiency in the Home

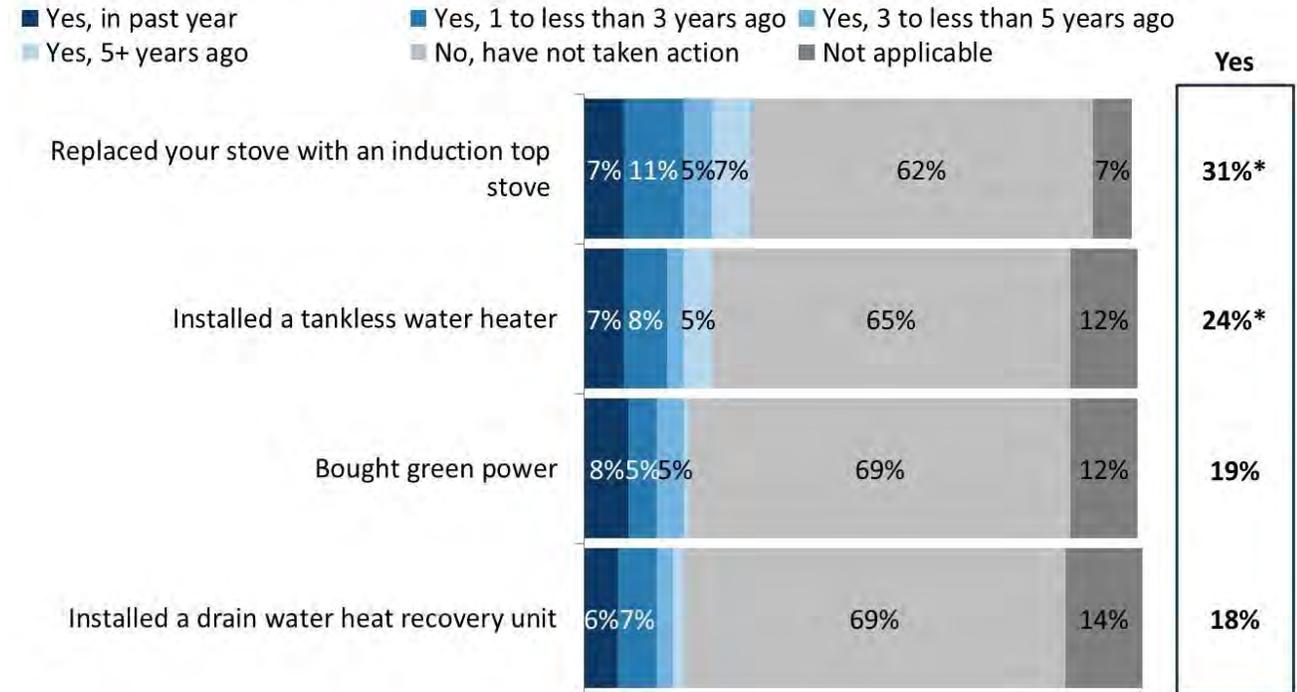
Least prevalent among the actions are installing a drain water heat recovery unit, buying green power, and installing a tankless water heater.

Those 18 to 34 years of age are more apt than those older to have taken a higher average number of the actions investigated. The average number of actions taken is elevated among those who have a fully detached house, and lowest among those in a condo or apartment.

	Age			Home Type		
	18-34	35-54	55+	Fully detached	Semi/Duplex/Town/Row	Condo/Apt
Average # of Items Agree	6.4	3.4	3.6	4.6	3.7	2.9

Actions Taken in Home

Among those who own their primary place of residence in Edmonton



Q.9b, c, e-m: [IF OWN PRIMARY PLACE OF RESIDENCE IN EDMONTON IN Q.7L] Which of the following actions have you taken in your home? (n=697) New question in 2023. *Due to rounding. Mentions of 4% or less are represented as a bar.



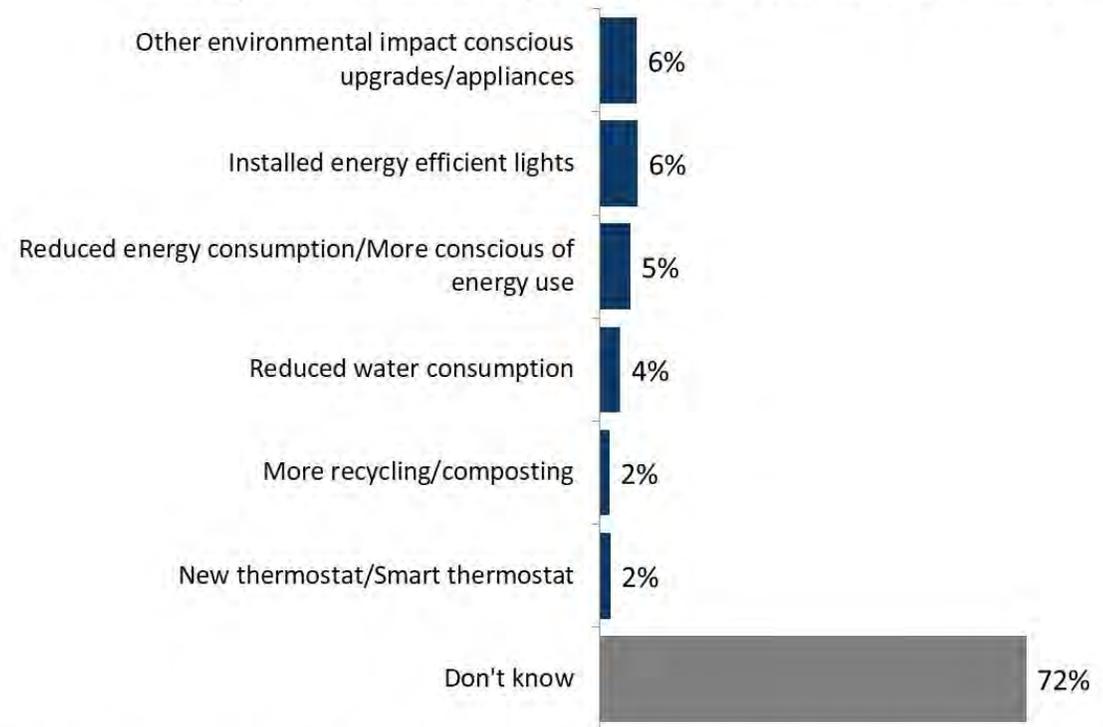
Actions Taken to Increase Energy Efficiency in the Home

Most did not identify any other actions, beyond the ones specifically explored.

When asked what other actions they may have taken in their home in the past year, seven in ten did not provide any specific responses. Precise actions were identified by only a small percentage each, as presented in the graph.

Other Actions Taken in Home

Among those who own their primary place of residence in Edmonton



Q.9o: [IF OWN PRIMARY PLACE OF RESIDENCE IN EDMONTON IN Q.7L] What, if any, other actions of this type have you taken in your home in the past year? (n=586) *New question in 2023. This question was optional.*



Actions to Reduce Climate Change Impact

Other than increasing the energy efficiency of their homes, just over four in ten Edmontonians have taken actions to reduce their impact on climate change in the past year. This is consistent with previous results.

The likelihood of having taken actions, not including home efficiency upgrades, to reduce impact on climate change in the past year is higher among those 18 to 34 years of age as compared with those older.

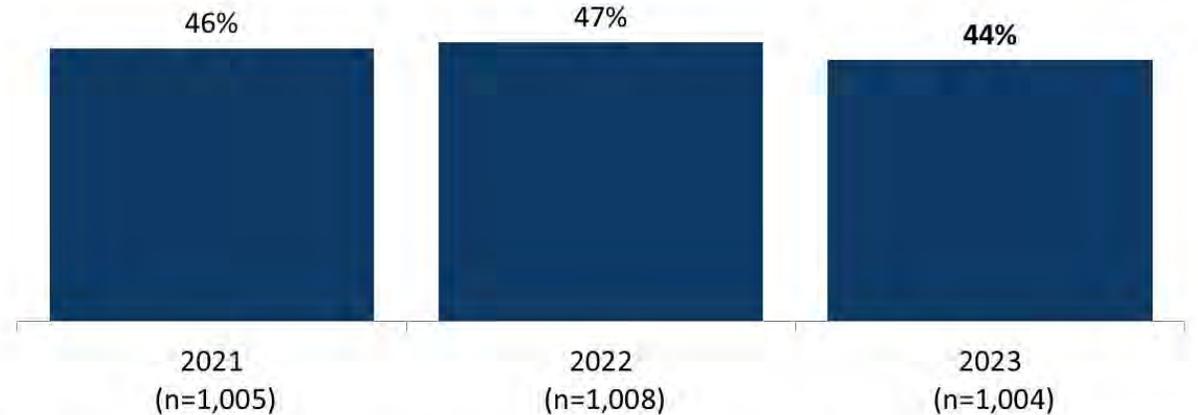
	Age		
	18-34	35-54	55+
Yes	53%	41%	40%

Residents in semi-detached/duplex/town/row houses are least likely to have taken other actions to reduce impact on climate change in the past year.

	Home Type		
	Fully detached	Semi/Duplex/ Town/Row	Condo/Apt
Yes	45%	36%	49%

Taken Actions to Reduce Impact on Climate Change in Past Year

% 'Yes'



Q.10: Have you taken any [IF 'YES' IN Q.8: Other] actions to reduce your impact on climate change in the past year? *New question in 2021.*



Actions to Reduce Climate Change Impact

Virtually all Edmontonians have taken one or more of the examined actions in the past year to reduce their impact on climate change, consistent with results from the preceding two years.

Most widespread is reducing food waste, switching to LED bulbs, and washing clothes in cold water. This is followed by avoiding idling their vehicle, thermostat setting, and buying fewer products or buying more used products. Changes from 2022 are generally modest, although there has been an eight percentage point increase in the proportion reporting they have reduced food waste.

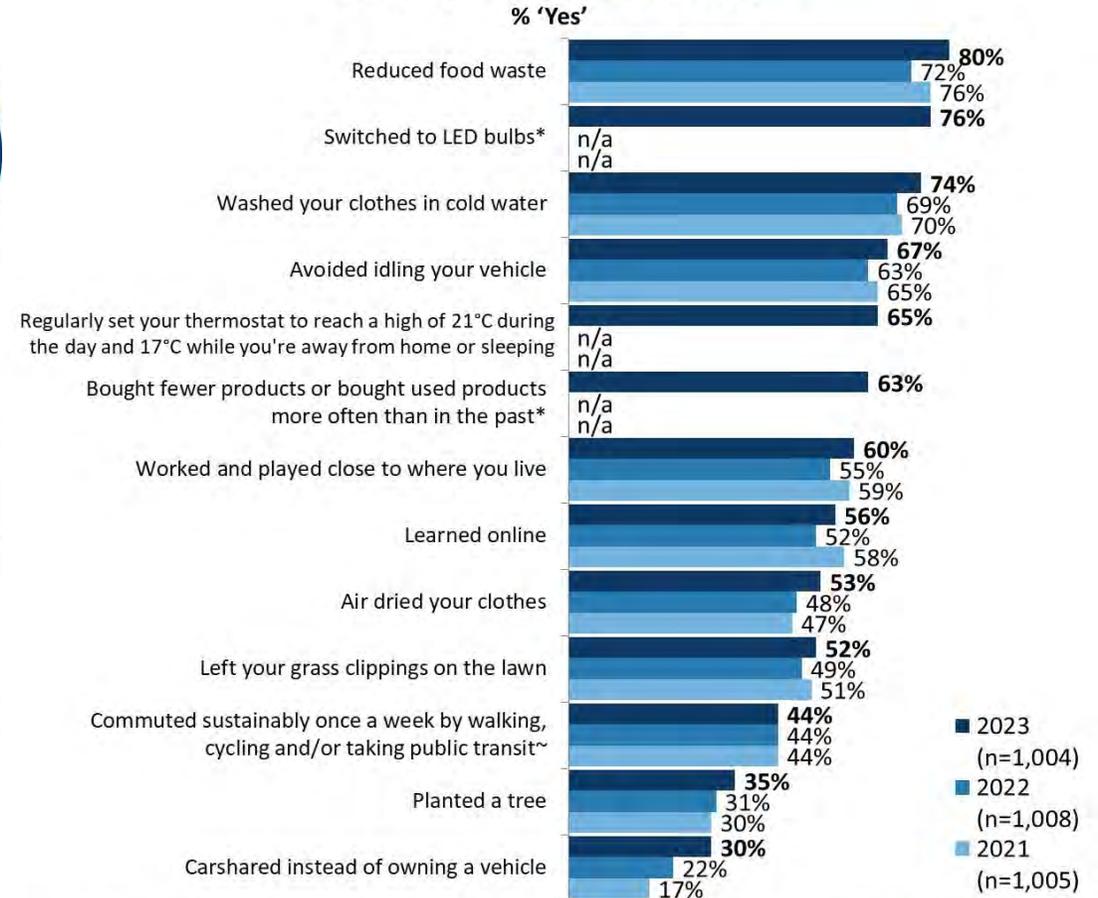
The average number of actions is elevated among women, those 35-54, those with moderate to high household incomes, and those who own their own home. Across home types, it is highest among those in a fully detached house and lowest among those in a condo or apartment. Across quadrants, the average is highest in the Southeast and lowest in the Northeast.

97%
Have taken actions in past year
(vs. 94% in 2022 and 96% in 2021)

7.6
Average number of actions taken in past year
*(vs. 7.2 in 2022 and 7.5 in 2021)***

***Previously out of 14 actions (2021-2022). Currently out of 13 statements.*

Actions Taken in Past Year



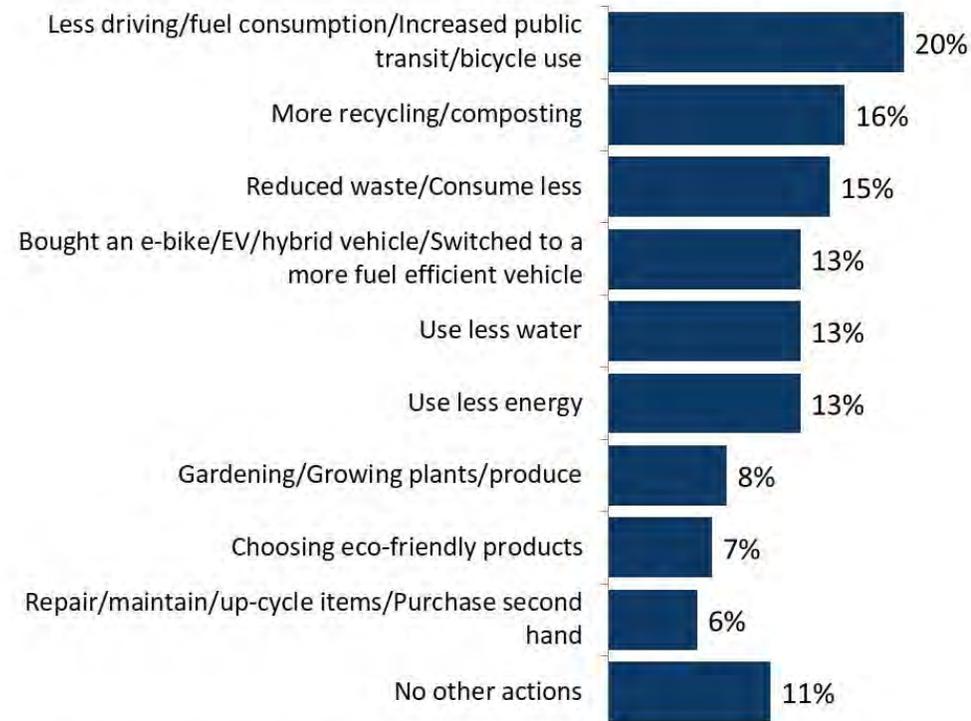
Q.11a-o: Which, if any, of the following actions have you taken in the past year? *New question in 2021. Slight question wording change in 2023. *New question in 2023. ~Slight wording change in 2023, previously 'and' instead 'and/or'.*



Among the respondents (n=131) indicating they have taken other actions, a variety of such actions were mentioned with less driving, more recycling/composting, and reducing waste/consuming less topping the list.

Other Actions Taken in Past Year

Key unaided mentions



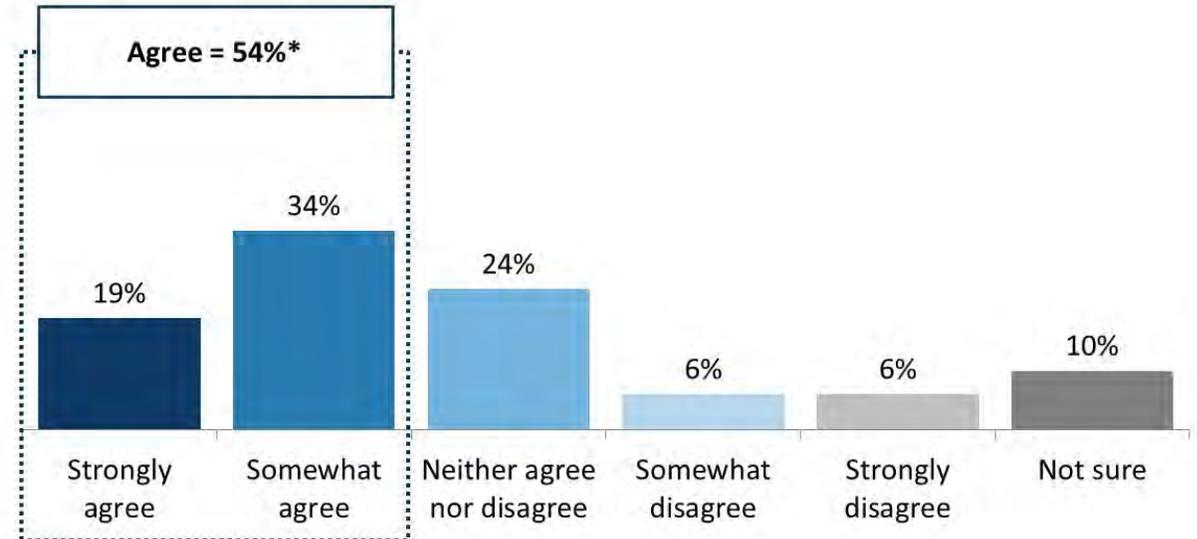
Q.11p: What, if any, other actions of this type have you taken in the past year? (n=131). *This question was optional. No history is provided for this question as it was not previously optional.*

Just over one-half of Edmontonians agree that the programs available to encourage households to reduce energy use are very helpful.

Agreement declines with age.

	Age		
	18-34	35-54	55+
Agree	61%	54%	46%

The Programs Available to Encourage Households to Reduce Energy Use Are Very Helpful



Q.16AK: To what extent do you agree or disagree with the following statements? (n=1,004) *New question in 2023. *Due to rounding.*

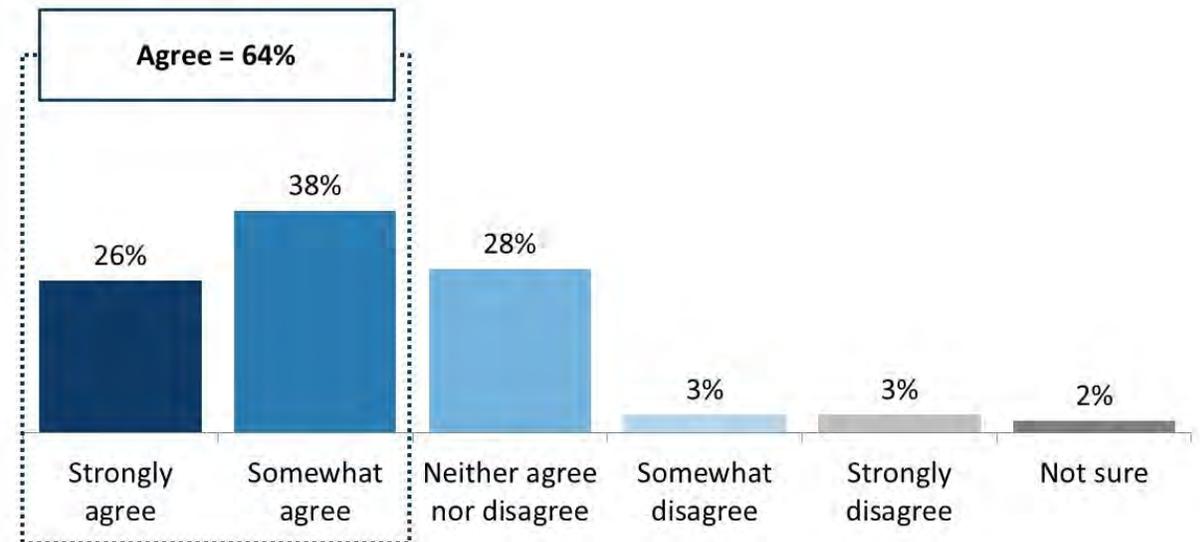


Approximately, two-thirds of Edmontonians are proud to be energy efficient.

Homeowners are more likely than renters or leasers to feel pride in energy efficiency. As well, a sense of pride is more moderate among those with some post-secondary education, compared with those with lower or higher levels of education.

	Home Ownership		Education		
	Own	Rent/Lease	HS or less	Some PS	Grad PS
Agree	68%	57%	65%	55%	67%

I Am Proud to Be Energy Efficient

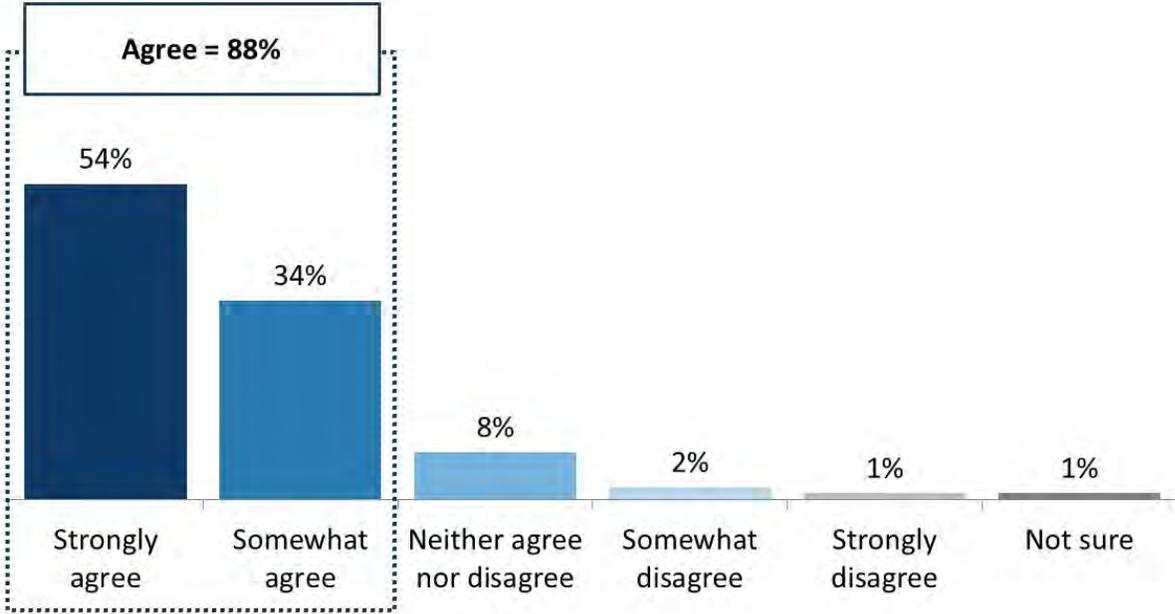


Q.16AA: To what extent do you agree or disagree with the following statements? (n=1,004) *New question in 2023.*

Agreement is very robust among Edmontonians that they want to feel like that they are in control of their spending.

A total of 88 percent agree, with 54 percent strongly agreeing. Agreement is similarly robust across the population sub-groups.

I Want to Feel Like I Am in Control of My Spending



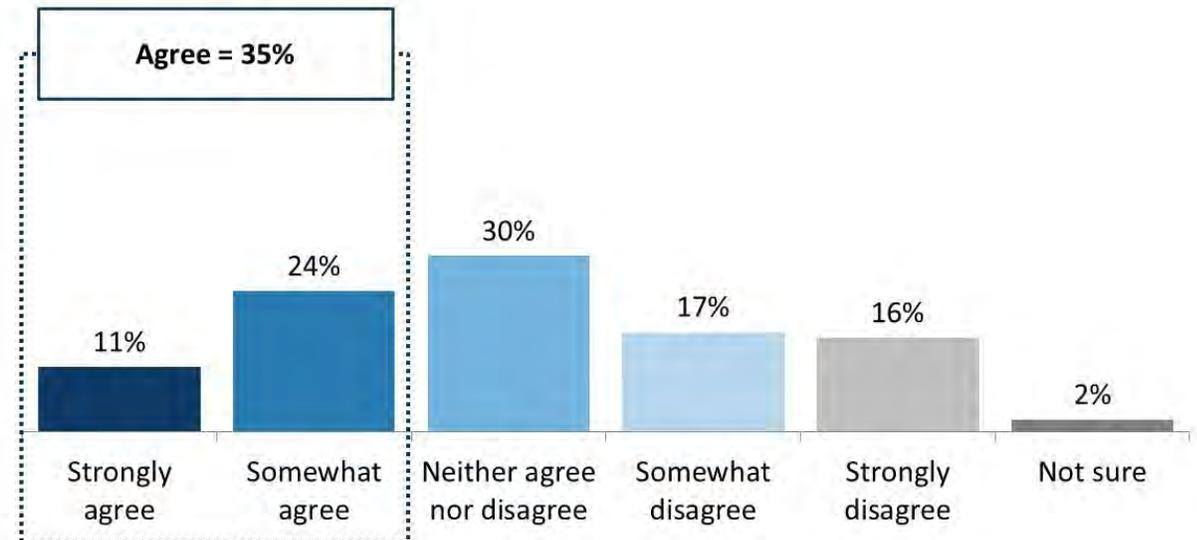
Q.16AH: To what extent do you agree or disagree with the following statements? (n=1,004) *New question in 2023.*

One in three Edmontonians consider themselves to be an activist on behalf of the environment.

There is a notable age difference with younger Edmontonians more likely to consider themselves to be an activist on behalf of the environment, as compared to those older.

	Age		
	18-34	35-54	55+
Agree	45%	37%	24%

I Consider Myself an Activist on Behalf of the Environment



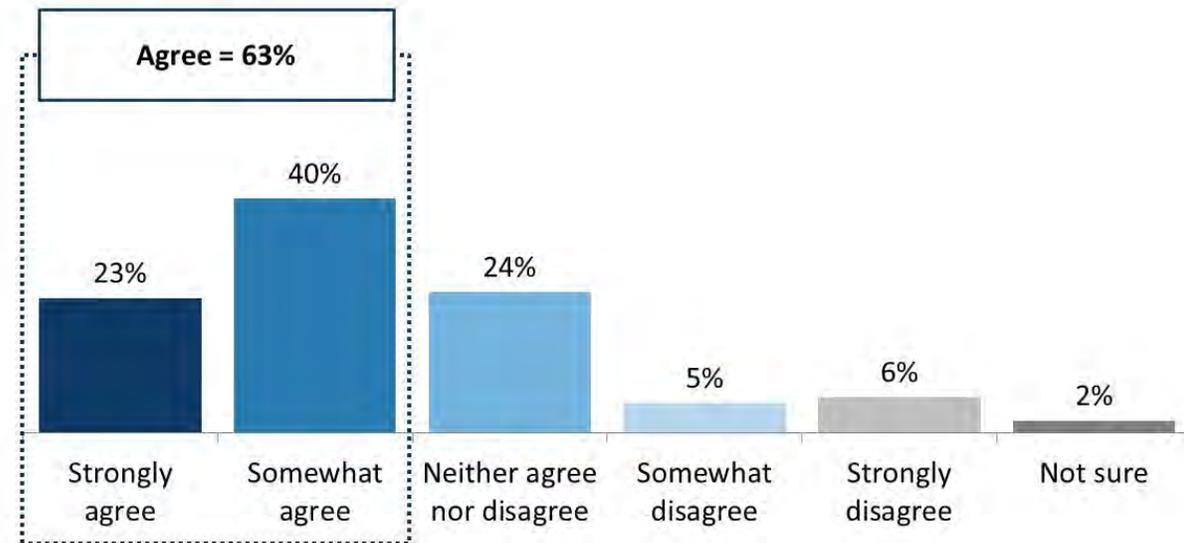
Q.16A1: To what extent do you agree or disagree with the following statements? (n=1,004) *New question in 2023.*



Sixty-three percent agree that they want to feel like they are contributing something to society at large, so they reduce their home energy use.

Levels of agreement with this statement are similar across the population sub-groups.

I Want to Feel Like I Am Contributing Something to Society at Large, So I Reduce My Home Energy Use



Q.16AL: To what extent do you agree or disagree with the following statements? (n=1,004) *New question in 2023.*



Eight in ten agree that the cost of energy use in their home makes them want to conserve, while just over one-half agree that they sometimes worry whether there is enough money to pay their energy bills.

While there are fairly similar levels of agreement among Edmontonians regarding the cost of energy use in their home making them want to conserve, there are some notable demographic differences regarding *worrying about whether there is enough money to pay their energy bills*. Specifically, agreement is highest among those with low to moderate household incomes, those with lower levels of education, those under 55 years of age, those who rent or lease, and those in a semi/duplex/town/row home, as compared to their respective counterparts.

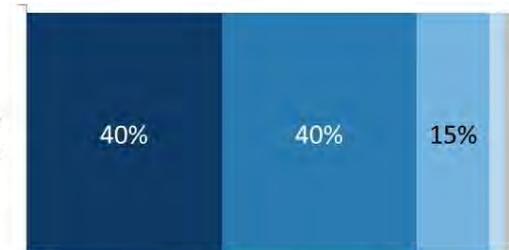
	Age			Education		
	18-34	35-54	55+	HS or less	Some PS	Grad PS
Agree	60%	61%	43%	65%	58%	51%

	Household Income			Home Ownership		Home Type		
	Lower	Moderate	Higher	Own	Rent/Lease	Fully detached	Semi/Duplex/Town/Row	Condo/Apt
Agree	63%	59%	43%	50%	64%	53%	65%	51%

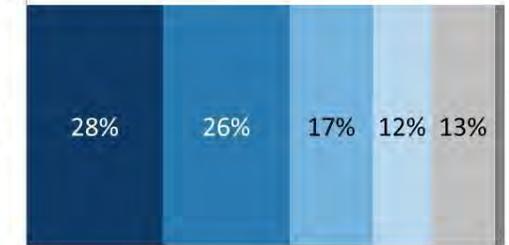
Home Energy Costs

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree
- Not sure

The cost of energy use in my home makes me want to conserve



I sometimes worry whether there is enough money to pay my energy bills



Agree

79%*
55%*

Q.16AB-C: To what extent do you agree or disagree with the following statements? (n=1,004) New questions in 2023. *Due to rounding. Mentions of 4% or less are represented as a bar.



Six in ten Edmonton residents agree that if they really wanted to they could probably use less energy in their home than they do now, by making a few home improvements. Just over four in ten residents agree that they don't know enough about ways to reduce their home's energy use.

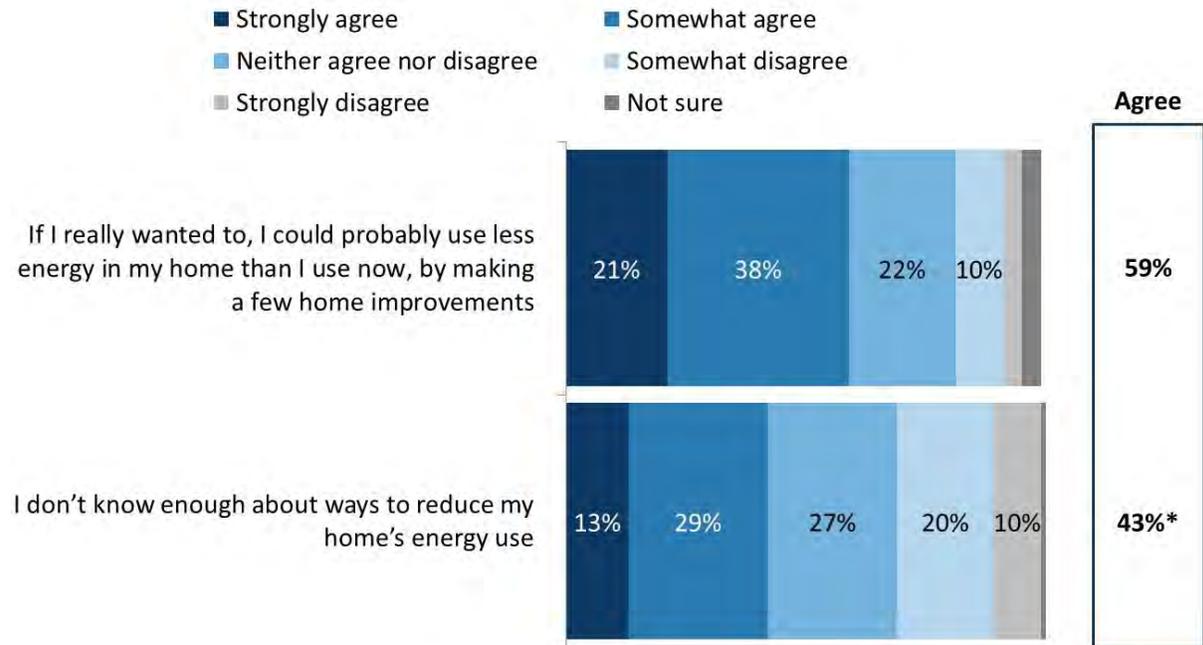
Agreement is notably higher among those under 55 years of age compared with those older that they could use less energy by making a few small improvements. Agreement is more robust among those with moderate to high household incomes, as well as those in detached or semi/duplex/town/row homes, as compared with their counterparts.

	Age			Household Income			Home Type		
	18-34	35-54	55+	Lower	Moderate	Higher	Fully detached	Semi/Duplex/Town/Row	Condo/Apt
Agree	67%	64%	45%	53%	64%	62%	62%	62%	52%

Edmontonians 55 or older are notably less likely than those younger to indicate they do not know enough about ways to reduce their home's energy use.

	Age		
	18-34	35-54	55+
Agree	54%	47%	27%

Home Energy Use



Q.16AD and J: To what extent do you agree or disagree with the following statements? (n=1,004) *New questions in 2023. *Due to rounding. Mentions of 4% or less are represented as a bar.*



Three-quarters of residents agree that the most important reasons for reducing their home energy's use is to save money on their bills, two-thirds agree the most important reason for reducing energy use is to protect the environment, while one-half agree that the most important reasons for reducing energy use is to improve the comfort of their home.

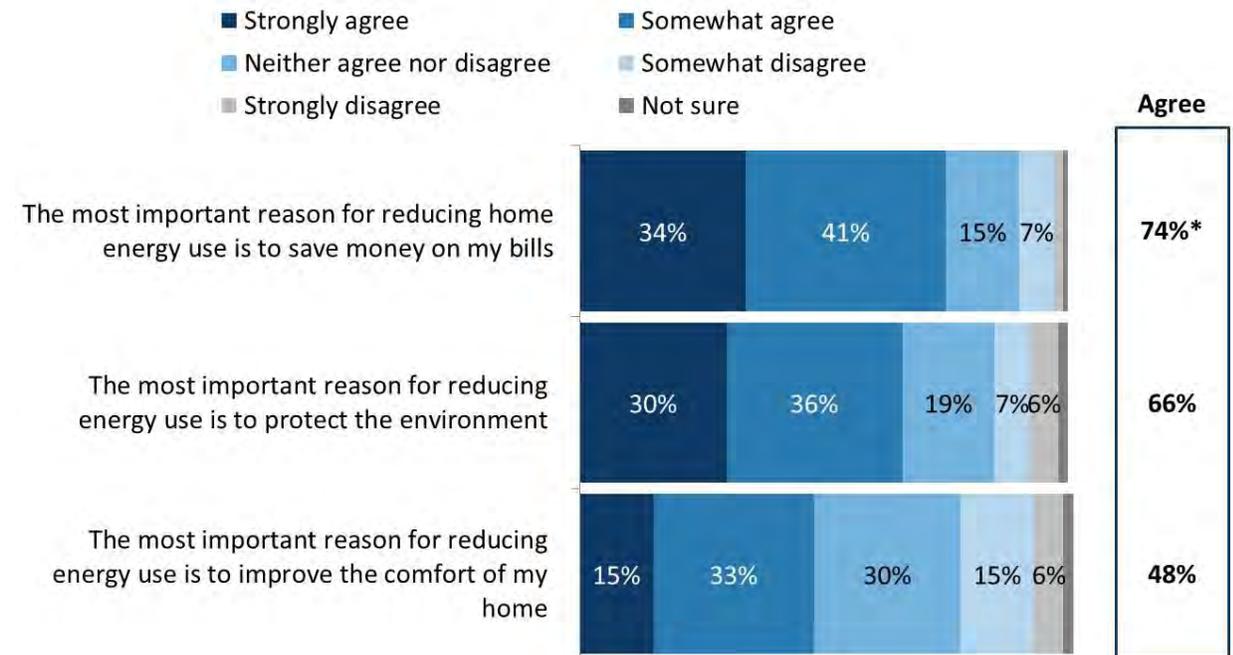
Those in a semi/duplex/town/row home are most likely and those in a condo or apartment are least likely to agree that the most important reason for reducing home energy use is to save money. Across quadrants, agreement is highest in the Southwest and lowest in the Northeast.

	Home Type			Quadrant			
	Fully detached	Semi/Duplex/Town/Row	Condo/Apt	Northeast	Northwest	Southwest	Southeast
Agree	76%	79%	67%	68%	75%	78%	76%

Younger residents are more apt than those older to agree the most important reason for reducing energy use is to improve the comfort of their home.

	Age		
	18-34	35-54	55+
Agree	57%	45%	41%

Reducing Home Energy Use



Q.16AE-G: To what extent do you agree or disagree with the following statements? (n=1,004) *New questions in 2023. *Due to rounding. Mentions of 4% or less are represented as a bar.*



Importance of Energy Efficient Buildings

Edmontonians place considerable importance on the energy efficiency of the buildings in which they work, study, play, or shop, as three-quarters of residents indicate that energy efficiency is important for such buildings, stable with results since 2021.

Perceptions of the importance of energy efficient buildings is consistent across the population sub-groups.

Importance of Building Where People Work, Study, Play, and Shop Being Energy Efficient



Q.24: How important or unimportant is it that buildings in which you work, study, play, or shop in are energy efficient? *Due to rounding. Slight question wording change in 2023. Mentions of 4% or less are represented as a bar.

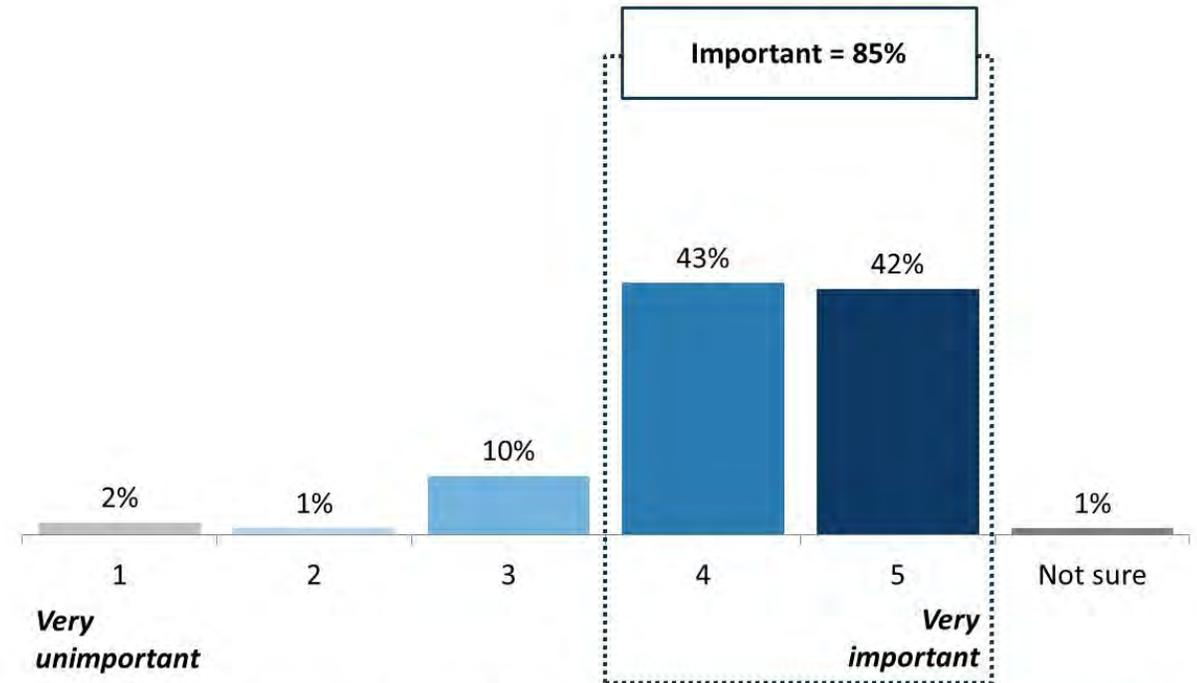


Most (85%) Edmontonians view it as important that the home where they live is energy efficient.

While agreement is widespread across the various demographic segments, it is slightly lower among those with some post-secondary education as compared with those with lower or higher levels. It is also modestly less prevalent among those with lower household incomes.

	Education			Household Income		
	HS or less	Some PS	Grad PS	Lower	Moderate	Higher
Agree	88%	78%	87%	80%	91%	87%

Importance Home Is Energy Efficient



Q.24A: How important or unimportant is it that the home in which you live is energy efficient? (n=1,004) *New question in 2023.*



NARRATIVE
RESEARCH

Programs



Awareness of EnerGuide Program

A slight majority of Edmontonians indicate awareness of the City's EnerGuide home evaluation program, reflecting a notable increase from preceding years.

This higher level of awareness in 2023 may at least in part, be the result of the more detailed explanation of the program provided to respondents this year.

Awareness is elevated among those 35 or older compared with those younger.

	Age		
	18-34	35-54	55+
Yes	44%	60%	57%

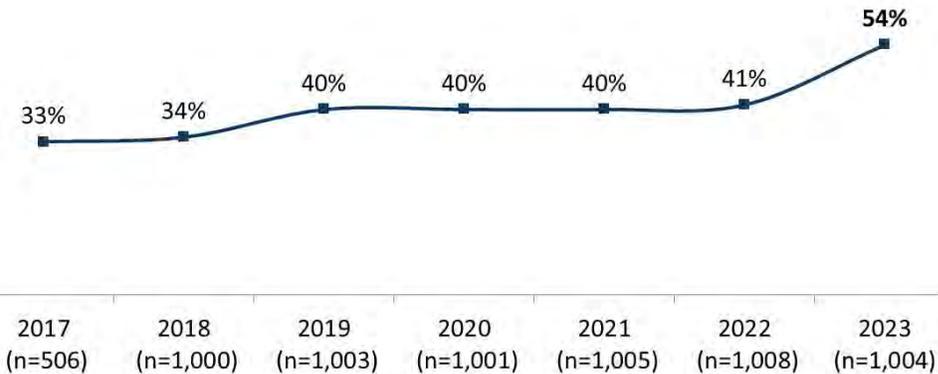
It is also elevated among those with higher education and household income levels.

	Education			Household Income		
	HS or less	Some PS	Grad PS	Lower	Moderate	Higher
Yes	47%	49%	58%	42%	58%	64%

Awareness is also elevated among homeowners compared with renters. Across home types, awareness is highest among those in in a fully detached home.

Aware of EnerGuide Program

% 'Yes'



Q.12: Have you heard of a program that helps residents make their homes more energy efficient by providing an EnerGuide energy evaluation and incentives for home improvements? This program provides information on a home's energy performance, estimated utility use, and greenhouse gas emissions. *Slight change in question wording in 2019 and 2023.*

	Home Ownership		Home Type		
	Own	Rent/Lease	Fully detached	Semi/Duplex/Town/Row	Condo/Apt
Yes	61%	40%	60%	50%	46%



Opinions on EnerGuide Program

On par with last year, four in five Edmontonians agree that having an EnerGuide evaluation with recommendations on how to make the home more energy efficient would be valuable when renovating, while three in four agree that when buying or renting a home, they would like to see the results of the EnerGuide evaluation of that home compared to others.

The survey results are consistent with those observed last year.

Residents who own their own home, as well as those in a house are more likely to agree that having an EnerGuide evaluation would be valuable when renovating.

	Home Ownership		Home Type		
	Own	Rent/Lease	Fully detached	Semi/Duplex/Town/Row	Condo/Apt
Agree	83%	71%	83%	80%	71%

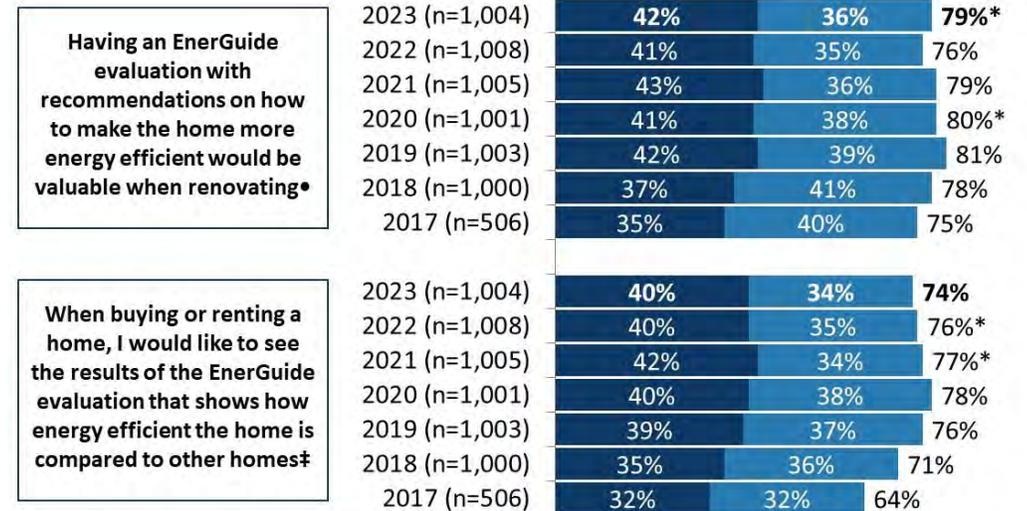
Agreement is less robust among those with lower household incomes regarding the an EnerGuide evaluation having value. The desire to see comparison to other homes is highest in the Southwest and lowest in the Northeast.

	Household Income			Quadrant			
	Lower	Moderate	Higher	Northeast	Northwest	Southwest	Southeast
Agree	74%	84%	82%	68%	74%	78%	75%

Opinions on EnerGuide Evaluation

% agree (strongly/somewhat agree), on 5-pt. agreement scale

■ Strongly agree ■ Somewhat agree



Q.15b-c: To what extent do you agree or disagree with the following statements about energy efficiency? *Due to rounding. *Change in wording in 2019, previously: "The EnerGuide evaluation and expert advice would be valuable to reference when renovating a home". ‡Change in wording in 2023, adding "or renting" and in 2019, previously: "When buying a home, I would like to see the EnerGuide label".



Awareness of Clean Energy Improvement Program

One-quarter of Edmontonians are aware of the Clean Energy Improvement Program.

Awareness declines with age.

	Age		
	18-34	35-54	55+
Yes	33%	22%	18%

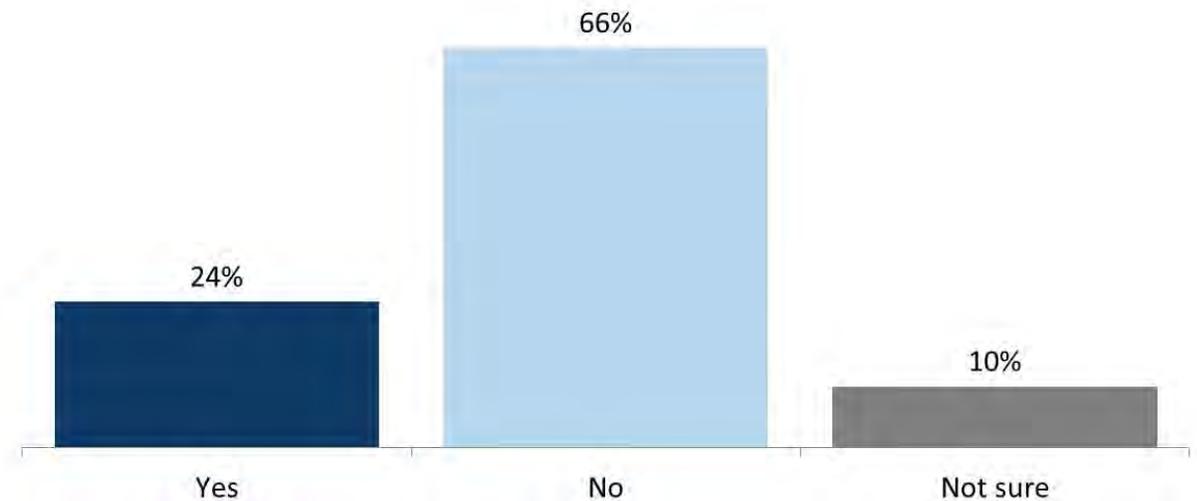
Awareness is higher among those with at least some post-secondary education, and also increases with household income.

	Education			Household Income		
	HS or less	Some PS	Grad PS	Lower	Moderate	Higher
Yes	16%	26%	26%	20%	26%	30%

Awareness is highest in the Southeast and lowest in the Northeast.

	Quadrant			
	Northeast	Northwest	Southwest	Southeast
Yes	17%	25%	24%	29%

Heard of the Clean Energy Improvement Program



Q.18: Have you heard of the Clean Energy Improvement Program that helps homeowners to finance energy efficiency and renewable energy upgrades through their property taxes? (n=1,004) *New question in 2023.*



NARRATIVE
RESEARCH

Electric Vehicles



Familiarity with Electric Vehicles

Three in ten Edmonton residents are familiar with electric vehicles, which is down from last year, but higher than the benchmark level in 2021. This shift since last year corresponds to an increase in the proportion who are somewhat familiar, while the proportion not very or not at all familiar remains consistent.

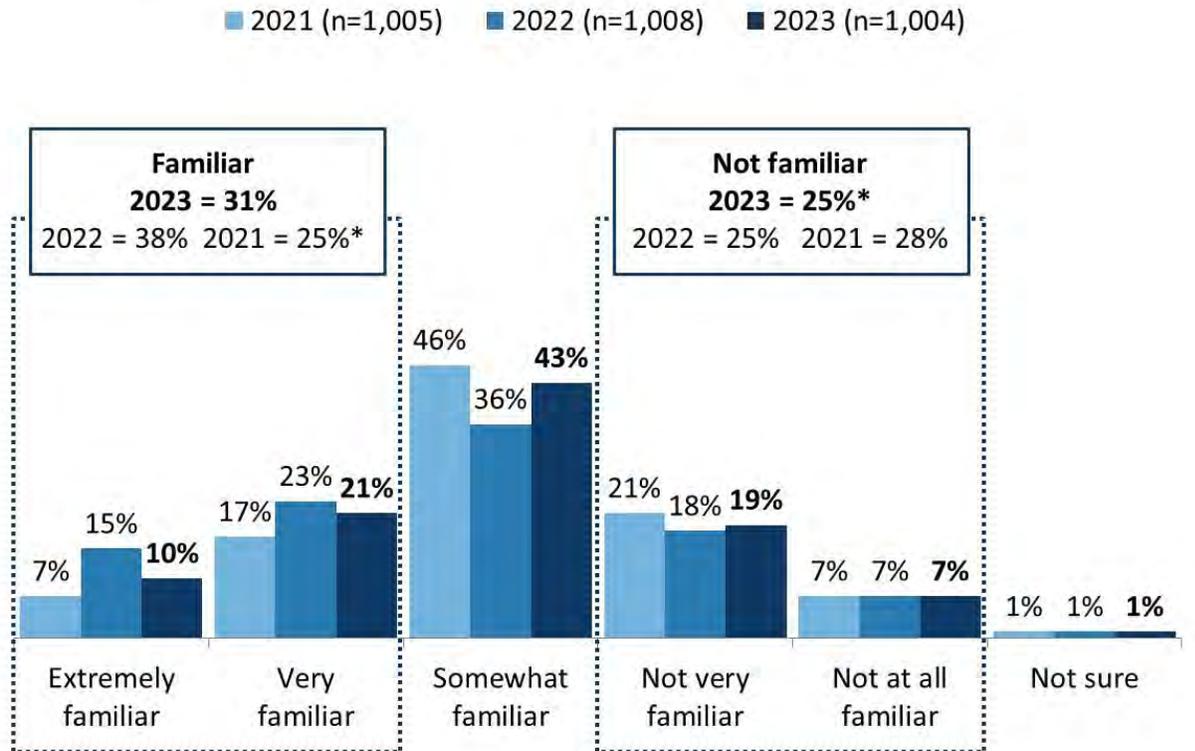
The percentage of residents who report that they are extremely or very familiar is down seven percentage points, while the proportion somewhat familiar is up seven points.

Familiarity with electric vehicles is elevated among younger residents, men, and those with higher household incomes as compared with their counterparts.

	Age			Gender	
	18-34	35-54	55+	Woman	Man
Familiar	44%	31%	17%	24%	38%

	Household Income		
	Lower	Moderate	Higher
Familiar	26%	34%	38%

Level of Familiarity with Electric Vehicles



Q.26: How familiar are you with electric vehicles? (n=1,005) New question in 2021. *Due to rounding.



Four in ten Edmontonians have no experience with electric vehicles. Otherwise, each of learning about electric vehicles from a friend, the news or advertising, and researching electric vehicles are mentioned by one-quarter of the public, while each of having driven or been a passenger in an electric vehicle and having spoken with an electric vehicle owner are mentioned by one-fifth. This year, seven percent report owning or having owned an electric vehicle in the past.

The survey results have remained generally consistent with last year, although the proportion reporting they own or have owned an electric vehicle has declined six percentage points. (Please note: March 2023 vehicle registration data as reported by the Alberta Government indicates 2.07% of Edmonton's registered vehicles are electric or hybrid vehicles.)

Some level of experience with electric vehicles is more prevalent among younger residents and those with higher household incomes, as well as among men.

Statements That Personally Apply in Terms of Electric Vehicles

	2019 (n=1,003)	2020 (n=1,001)	2021 (n=1,005)	2022 (n=1,008)	2023 (n=1,004)
I have no experience with electric vehicles	61%	61%	48%	43%	42%
I have learned about electric vehicles from a friend, news or advertising*	n/a	n/a	28%	28%	27%
I have researched or looked for information about electric vehicles	23%	22%	27%	25%	25%
I have driven or been a passenger in an electric vehicle	15%	14%	13%	15%	20%
I have spoken with the owner of an electric vehicle	13%	15%	14%	17%	18%
I own (or owned) an electric vehicle	4%	4%	3%	13%	7%
Other	4%	3%	1%	1%	1%

Q.27: Which of the following statements apply to your personal experience with electric vehicles? Please select as many as apply to you.
*Note: Slight question wording change in 2021. Question allowed for multiple responses to be selected. *New statement in 2021.*



One-quarter of Edmonton residents say they are likely to buy an electric vehicle for their next vehicle purchase, which is midway between the 2021 and 2022 proportions observed.

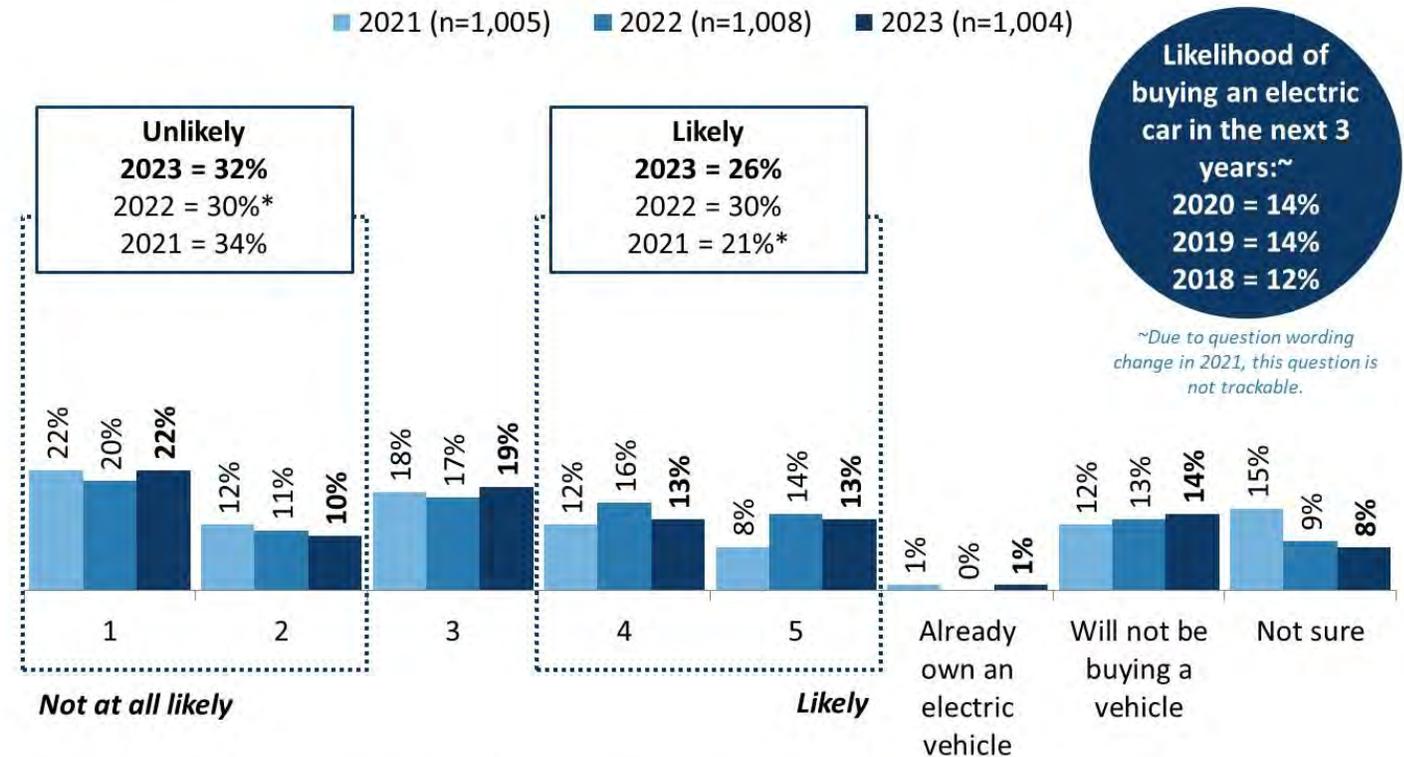
For Edmonton residents, the likelihood of buying an electric car as their next vehicle purchase decreases with age, as residents aged 18-34 are *most* likely. The likelihood is also *decreased* among residents with household incomes of \$60,000 or less. Across quadrants, likelihood is highest in the Southeast and lowest in the Northeast.

	Age			Household Income		
	18-34	35-54	55+	Lower	Moderate	Higher
Likely	42%	24%	12%	19%	33%	31%

	Quadrant			
	Northeast	Northwest	Southwest	Southeast
Likely	18%	27%	26%	31%

Note that one percent of respondents confirmed that they already own an electric vehicle, while others who may also already own an electric vehicle may have provided a different response when queried about the likelihood of buying another electric vehicle.

Likelihood of Buying Electric Vehicle for Next Vehicle



Q.28: How likely are you to buy an electric vehicle for your next vehicle purchase? *Due to rounding.



The price of an electric vehicle, followed by winter performance, access to charging stations and distance between charging stations are the top factors limiting purchases of electric vehicles.

The proportion of residents naming price as an inhibitor has increased by six percentage points this year, while the proportion naming performance of the electric vehicle in winter has increased by seven percentage points. This represents the second year-over-year increase for identification of winter performance as a purchase deterrent.

Price is the key deterrent across demographics, albeit among those with higher household incomes, winter performance is on par with price. Identification of price and winter performance both increase with age and education levels.

Factors Preventing Electric Vehicle Purchase

	2019 (n=1,003)	2020 (n=1,001)	2021 (n=1,005)	2022 (n=1,008)	2023 (n=1,004)
The price of an electric vehicle	62%	65%	60%	55%	61%
The performance of electric vehicles in the winter [∅]	30%	31%	33%	42%	49%
Access to electric vehicle charging stations	37%	38%	52%	45%	48%
Distance between charging stations doesn't allow me to travel where I want to go	36%	35%	42%	41%	43%
Availability of electric vehicles for purchase in Edmonton~	21%	16%	n/a	n/a	n/a
<i>The limited availability of <u>new</u> electric vehicles for purchase in Edmonton</i>	n/a	n/a	18%	21%	21%
<i>The limited availability of <u>used</u> electric vehicles for purchase in Edmonton</i>	n/a	n/a	23%	20%	19%
Availability to test drive the vehicle before purchasing	10%	11%	12%	13%	12%
I don't drive	11%	10%	8%	8%	9%
I already have an electric vehicle	2%	2%	1%	5%	3%
Improved/greener batteries [□]	n/a	n/a	n/a	2%	3%
Other	8%	10%	4%	2%	4%
None of the above/Will not be buying an electric vehicle*	7%	7%	8%	7%	6%
Will not be buying any vehicle•	n/a	n/a	7%	6%	5%

Q.30: Which, if any, of the following factors might prevent you from purchasing an electric vehicle in the future? Please select as many as apply to you. *Note: Slight question wording change in 2020. Question allowed for multiple responses to be selected. ∅Changed in wording in 2022, previously: "Electric vehicles are not good in the winter". ~No longer an option since 2021, replaced by: "The limited availability of new electric vehicles for purchase in Edmonton" and "The limited availability of used electric vehicles for purchase in Edmonton". □ New unaided mention in 2022. *Change in wording in 2019, previously: "None of the above". •New option in 2021.*



Motivating factors for purchasing an electric vehicle remain varied with lower cost relative to a non-electric one, economics, and incentives the top three factors.

In general, the survey results are comparable to 2022.

Costs of an electric vehicle being lower than a non-electric one is similarly considered a motivator across most of the population, although it does increase with education levels.

Those with higher education are also more apt to identify economic benefits, incentives to purchase an electric vehicle, and costs being on par with a non-electric vehicle. Those with higher annual household incomes are more likely to cite economic benefits, incentives to purchase an electric vehicle, costs being on par with a non-electric vehicle, and incentives to purchase a charger at home from the presented list of motivating factors.

Factors Motivating Electric Vehicle Purchase

	2019 (n=1,003)	2020 (n=1,001)	2021 (n=1,005)	2022 (n=1,008)	2023 (n=1,004)
If the cost of an electric vehicle is lower than a non-electric one*	n/a	n/a	49%	46%	45%
Economics – reduced maintenance costs and not having to pay for gas	53%	49%	49%	43%	43%
Incentives to purchase an electric vehicle	46%	45%	45%	40%	40%
Incentives to purchase charging stations for your home	33%	31%	40%	34%	33%
If the cost of an electric vehicle is the same as a non-electric one*	n/a	n/a	40%	34%	33%
Reduced greenhouse gas emissions that contribute to climate change	38%	37%	36%	30%	28%
Abundant availability of electric vehicles for purchase in Edmonton, including used ones*	n/a	n/a	32%	26%	23%
Innovation – I like being at the forefront of new technologies and ideas	15%	13%	15%	16%	11%
Other	4%	6%	5%	6%	8%
None of the above	20%	25%	16%	18%	18%

Q.29: Which, if any, of the following factors might motivate you to purchase an electric vehicle in the future? *Note: Slight question wording change in 2020. Question allowed for multiple responses to be selected. *New statement in 2021.*

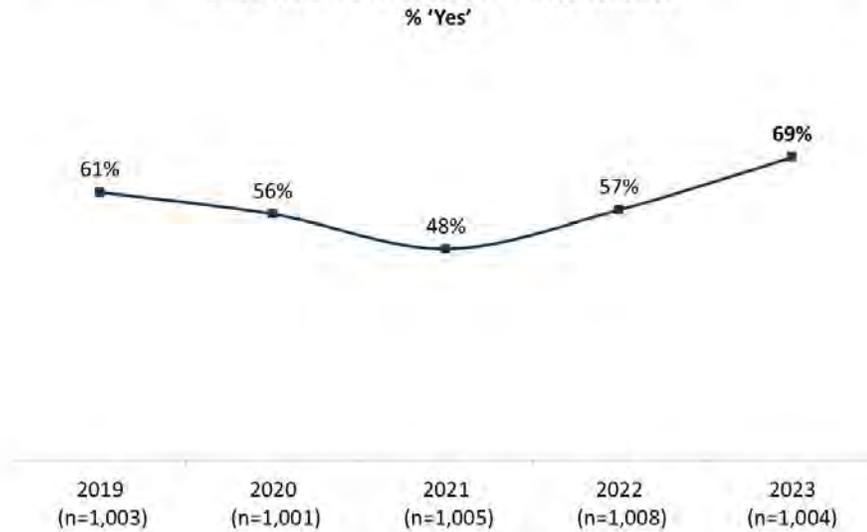


Awareness of Public Charging Stations for Electric Vehicles

Seven in ten Edmontonians are aware that there are public charging stations for electric vehicles in Edmonton, marking an increase of 12 percentage points since 2022 and 21 percentage points since 2021.

Awareness of public charging stations increases with household income, and is elevated among homeowners, and those residing in a fully/semi detached or townhouse dwelling, relative to their respective counterparts. Awareness appears (not surprisingly) to be positively linked to experience with electric vehicles, whereby residents who have no experience with electric vehicles are notably less likely to say that they are aware of public charging stations (30%), in contrast to those who have experience with electric vehicles (61%). Perhaps unsurprisingly, owners of electric vehicles are the most likely (84%) to say that they are aware of charging stations.

Aware That There Are Public Charging Stations for Electric Vehicles in Edmonton



Q.30A: Are you aware that there are public charging stations for electric vehicles in Edmonton?

Awareness of Public Charging Stations Versus Experience With Electric Vehicles

	2023		
	Yes	No	Not sure
I have no experience with electric vehicles	61%	30%	9%
I have some experience with electric vehicles, I have:			
I own or have owned an electric vehicle	84%	11%	6%
Spoken with an electric vehicle owner	81%	12%	6%
Researched information about electric vehicles	80%	18%	2%
Learned about electric vehicles	76%	17%	7%
Driven or been a passenger in an electric vehicle	72%	20%	8%
Other	86%	11%	3%

Q.27: Which of the following statements apply to your personal experience with electric vehicles? Please select as many as apply to you. Note: Slight question wording change in 2021. Question allowed for multiple responses to be selected. | Q.30A: Are you aware that there are public charging stations for electric vehicles in Edmonton?



NARRATIVE
RESEARCH

Transportation Choices



Consistent with past results, driving a motor vehicle remains the most frequently mentioned means of transportation used in the past 30 days, followed by walking on foot, and riding as a passenger in private transportation.

Of note, the proportion who were the *driver of a motor vehicle* in the last 30 days has increased compared to 2022 results (by 5 percentage points), while the proportion who were *pedestrians* has increased by eight percentage points. The proportion who has been a *passenger of private transportation* has also increased, by six percentage points.

Driver of a motor vehicle is the top means of transportation across segments. That said, this does increase as each of age, household income, and education increases.

Younger residents are more apt than older ones to use other means of transportation, most notably public transportation and cycling. Women are more likely than men to be pedestrians and passengers of private transportation. Those with lower or moderate household incomes are more apt than those with higher household incomes to use public transportation.

Transportation Used in Past 30 Days

	2019 (n=1,001)	2020 (n=998)	2021 (n=1,005)	2022 (n=1,008)	2023 (n=1,004)
Driver of a motor vehicle	73%	75%	74%	69%	74%
Pedestrian	50%	53%	50%	43%	51%
Passenger of private transportation vehicle, for example, a car, van, truck or motorcycle	41%	38%	33%	36%	42%
Passenger of public transportation including bus or LRT	40%	18%	21%	30%	30%
Cyclist – non-motorized	13%	21%	17%	13%	16%
Motorcycle rider, that is, primarily a driver, not a passenger	3%	3%	3%	7%	7%
Cyclist – e-bike/electric bicycle*	n/a	2%	2%	2%	6%
Other	1%	2%	1%	1%	1%

Q.31: In the past 30 days, which of the following modes of transportation have you used for getting around? **New category in 2020. Note: Question allowed for multiple responses to be selected. Two respondents in 2019 and three respondents in 2020 failed to provide an answer for this question.*



NARRATIVE
RESEARCH

Campaigns and Information Sources

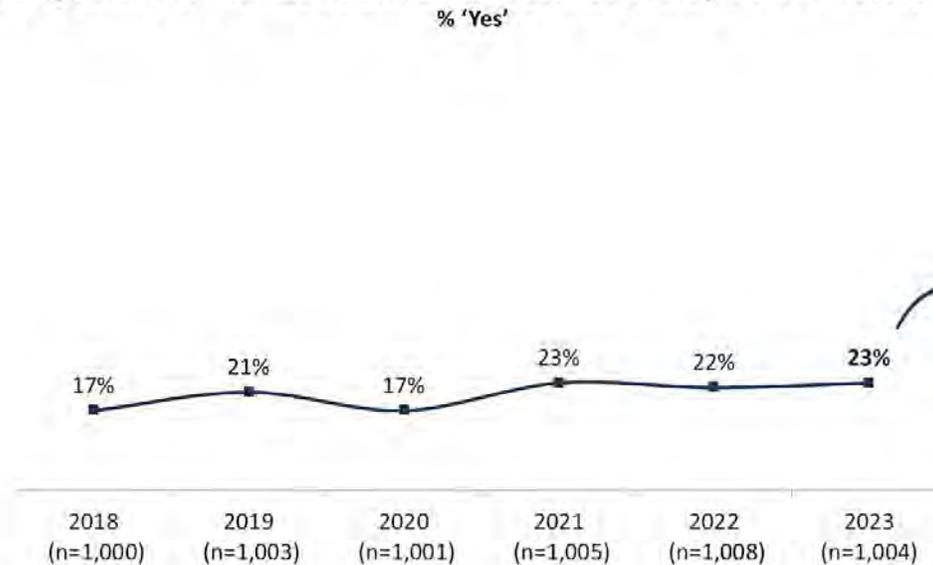


Recall Climate Change Programs or Advertisements

One in four residents recall, unaided, seeing or hearing about climate change programs or advertisements from the City of Edmonton, on par with 2021 and 2022. Recall of any specific piece of information was low.

Recall was elevated among those 18 to 34 (31%) compared with those 35-54 (21%) or 55+ (18%). No single element was recalled, unaided/unprompted, by a substantial proportion of residents. Rather, a wide variety of topics were identified among those who recall messaging of this nature, with only a small number of residents citing any given aspect. The top specific topic mentioned was single use bylaw, offered by eight percent.

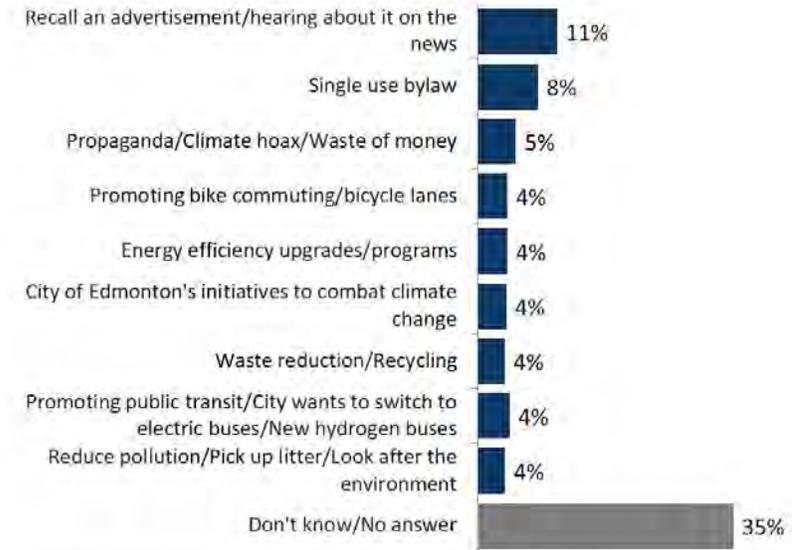
Recall Seeing or Hearing About Climate Change Programs or Advertisements from the City of Edmonton



Q.32: Do you recall seeing or hearing about any climate change programs or advertisements from the City of Edmonton in the past year? *Slight question wording change in 2023.*

Information Recalled

Key unaided mentions



Q.33: [IF 'YES, DO RECALL' IN Q.32] Please describe what you recall seeing or hearing about climate change programs or advertisements from the City of Edmonton? Please be as detailed as possible. (n=211)



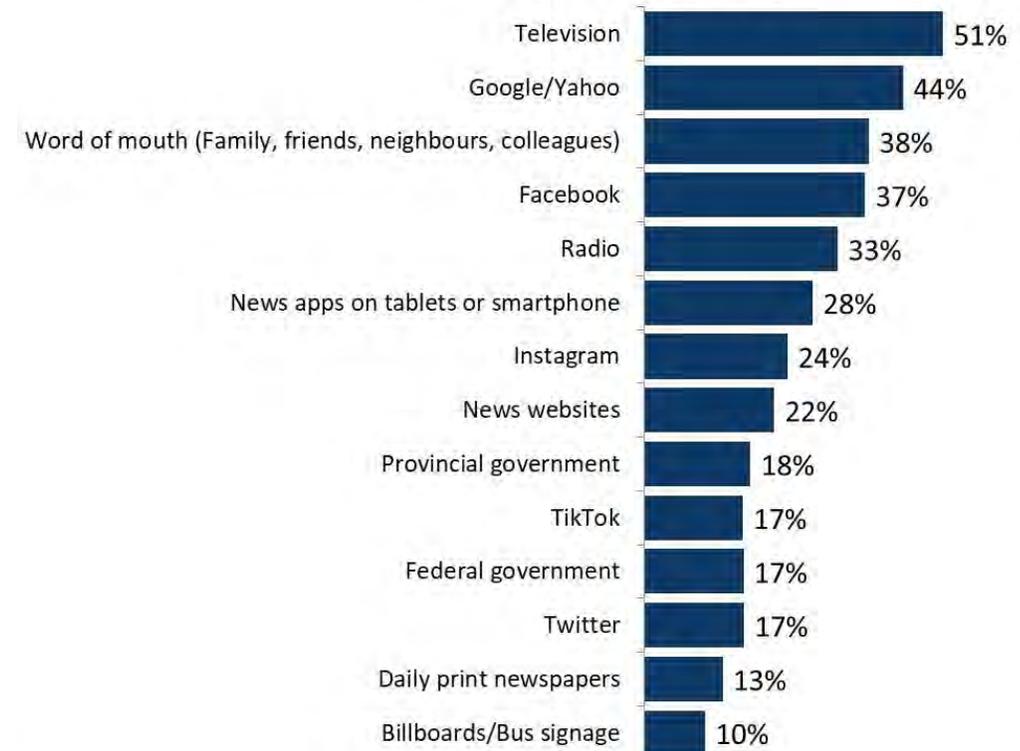
In general, Edmonton residents rely on television, Google/Yahoo, word of mouth, Facebook and radio for information.

There is a notable age difference, with television much more predominant among older residents. Reliance on radio and newspapers also increases with age. Use of online sources, including social media, is more prevalent among younger residents.

	Age		
	18-34	35-54	55+
Television	30%	49%	73%
Google/Yahoo	44%	51%	36%
Word of mouth	39%	37%	38%
Facebook	41%	44%	26%
Radio	22%	31%	45%
News apps	29%	28%	29%
Instagram	44%	24%	5%
News websites	13%	24%	29%
Provincial government	14%	20%	20%
TikTok	35%	13%	2%
Federal government	12%	19%	20%
Twitter	25%	18%	8%
Daily print newspapers	6%	9%	25%

Sources of Information

Key aided mentions



Q.38: In general, what sources do you use for information on a regular basis? (n=1,004) *New question in 2023.*



NARRATIVE
RESEARCH

Five-Year Summary



While Edmontonians’ personal feelings concerning climate change are largely similar to what they were five years ago, they do perceive a sense of heightened concern among Edmontonians in general about climate change, their need to act now, and that Edmontonians are actually taking action to address climate change.

With another iteration of the Climate Change and Energy Perceptions Report for the City of Edmonton completed, it is important to reflect on notable changes that have occurred over time. Given that this study has been administered via an online survey methodology, it should be noted that statistical testing cannot strictly be applied, in the absence of probability sampling during the data collection phase of the endeavour.

Compared with 2018, there is a sense that Edmontonians are more concerned about climate change, that Edmontonians need to act now to address climate change, and that Edmontonians indeed are taking action to address climate change.

Climate Change Opinions 2018 vs. 2023

% agree (strongly/somewhat agree), on 5-pt. agreement scale

	Personal Feelings			Perceptions About Edmontonians		
	2018 (n=1,000)	2023 (n=1,004)	% Change	2018 (n=1,000)	2023 (n=1,004)	% Change
Concerned about climate change	73%	74%	↑1%	47%	55%	↑8%
Need to act now to address climate change	72%	73%	↑1%	48%	53%	↑5%
Climate change is caused mostly by human activities	67%	71%	↑4%	54%	56%	↑2%
Want to do more personally to help address climate change~	65%	65%	n/c	44%	46%	↑2%
Taking action to address climate change~	62%	65%	↑3%	34%	39%	↑5%

Q.1a, b, e, f, and g: The next few statements are about how you **personally** feel about climate change. To what extent do you agree or disagree with the following statements? | Q.2a, b, e, f, g: The next few statements are about how you think **Edmontonians** feel about climate change. To what extent do you agree or disagree with the following statements? ~Note: Slight change in wording in 2021, changed from “prevent” to “address”.



NARRATIVE
RESEARCH

Classification Questions



The accompanying table summarizes the weighted demographic profile of survey respondents.

	(n=1,004)
Gender	
Woman	51%
Man	49%
Non-binary	1%
Transgender	<1%
Two-spirit	0%
Another gender not listed above	<1%
Age	
18-24	9%
25-34	24%
35-44	20%
45-54	15%
55-64	15%
65 or older	17%
Highest Level of Education Completed	
Some high school or less	3%
Completed high school	14%
Some community college/technical college/CEGEP	12%
Completed community college/technical college/CEGEP	18%
Some university	7%
Completed university	34%
Post-graduate degree	11%

	(n=1,004)
Household Income in 2022	
Up to \$40,000	16%
\$40,001 - \$60,000	15%
\$60,001 - \$80,000	13%
\$80,001 - \$100,000	14%
\$100,001 - \$150,000	21%
More than \$150,000	11%
Prefer not to answer	9%
Dwelling Type	
Fully detached house	53%
Condo/apartment	27%
Townhouse/row house	10%
Semi-detached house/duplex	7%
Other	2%
Not sure	1%
[If currently rent or lease]	
Planning to Buy a Home in Next 12 Months (n=307)	
Yes	15%
No	65%
Not sure	20%



NARRATIVE
RESEARCH

Climate Change and Energy Perceptions Report

July 2023

Prepared for:
The City of Edmonton

