



NARRATIVE
RESEARCH

Climate Change and Energy Perceptions Report

November 2019

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. This strategy aims to make Edmonton a more energy sustainable and resilient city, by reducing the City's greenhouse gas emissions, reducing and conserving energy, and promoting local generation of energy. The support and participation of residents in the programs is essential to their success. To be able to market, target and even adapt their programs effectively, the City of Edmonton seeks to understand its audiences, their perceptions, what motivates them and what are their barriers to action. For this purpose, the City of Edmonton has conducted research in past years, the most recent being an online survey which took place in June 2018. The results of that survey helped inform marketing efforts and also provided a baseline for the launch of climate change and energy efficiency programs. The purpose of the current survey is to compare results to previous survey iterations, 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:

- *Measure and compare changes in behaviours and perceptions regarding climate change and energy efficiency.*
- *Measure and compare awareness and perceptions regarding the EnerGuide home evaluation program and “Change for Climate” initiative, against the baseline established in 2018.*
- *Measure awareness of the City Programs launched, such as those involving residential solar panels, and compare against the baseline established in 2018.*
- *Measure the effectiveness of marketing campaign messages and images.*



Target Audience

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



Approach

- **Online survey** using a general population online panel provided by Dynata (formerly Research Now).
- Changes were made to the 2019 Climate Change and Energy Perceptions Survey from the previous version, including the addition of new questions, deletion of certain questions, as well as changes in the wording of selected questions.
- Data was statistically weighted by age, gender, and region (quadrants) using 2016 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. If this were a probability sample, the margin of error would be +/- 3.1 percentage points, 19 times out of 20, based on this sample size.
- The first iteration of this survey was conducted in June (18-24) of 2018.

1,003
Completed Surveys

11
days

Survey Dates

- September 13-23, 2019

Survey Length

- 11 minutes, on average

Feelings Toward Climate Change

Edmontonians continue to widely agree (74%) that climate change is a concern, and that there is a need to act now to address this issue (75%). Importantly, there has been an increase in the proportion strongly agreeing with these statements, relative to 2018. That said, 11 percent of Edmontonians disagree with each of these two measures, consistent with previous findings. A total of 69 percent of Edmonton residents also agree that climate change is caused by human activities, 64 percent say that their individual actions contribute to the global impacts of climate change, 70 percent say that Edmonton residents should be doing more to help prevent climate change, and 69 percent agree that they want to do more personally to help prevent climate change. Agreement on the latter two measures has increased by 10 and nine percentage points, respectively, over the past two years, while the former two have remained stable. A total of 63 percent of Edmontonians affirm they are taking action to prevent climate change, compared with 62 percent last year.

In addition to expressing their own personal opinions on these matters, residents were also asked their perceptions of how Edmontonians in general feel in regards to climate change. As in 2018, 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. That said, the gap between these two perception measures is relatively stable with that observed in 2018.

Rebounding from a decline between 2017 and 2018, more Edmontonians now believe the City should be doing more than what it is doing currently to address climate change. A total of 39 percent of residents perceive the City of Edmonton is taking the right actions to address climate change, compared with 43 percent in 2018.

Feelings Toward Climate Change (Continued)

Between 60 percent and 68 percent of Edmontonians recognize economic and employment opportunities associated with notions examined in the research regarding energy efficiency and addressing climate change. The sense of derived economic opportunity is down relative to two years ago. There is also widespread knowledge of the impacts of various human actions and greenhouse gas emissions on climate change. There is a downward trend evident in certain measures, including perceptions regarding the impact of transportation choices, as well as workplace and home heating or cooling and electricity use on climate change.

New this year, 73 percent Edmontonians agree that having solar panels installed in their homes decreases their homes' impact on climate change. However, the agreement on the impact of their food and other consumption choices on climate change is less robust, with 56-60 percent of residents agreeing with these two statements. Also new this year, Edmonton residents were asked about the impact of climate change on humans as well as the earth. A total of 76 percent of Edmontonians are in agreement that climate change impacts the health and well-being of individuals. Meanwhile, a total of 58 percent of residents believe that human caused climate change is linked to the occurrence of natural disasters.

A total of 48 percent of Edmontonians have become more supportive of taking action on climate change in the past year, an increase of five percentage points from the 2018 result for this measure. Among these residents, the most prevalent reasons for becoming more supportive of the cause include becoming more mindful of the impact of individual actions on the environment, becoming more aware of or educated on climate change, belief that climate change is becoming more evident, and a perceived need to take action against or combat climate change. New this year, Edmonton residents were asked for their opinions vis-à-vis talking about climate change. A total of 73 percent of Edmontonians think it is important to talk about climate change. While a total of 70 percent residents feel comfortable talking about climate change with their family, friends, or colleagues, 45 percent of residents mentioned regularly doing so.



Home Energy Efficiency

Residents knowledge of their home's impact on climate change remains relatively stable, with 68 percent of residents agreeing their home does have an impact. As well, 64 percent residents know what can be done to make their home more energy efficient and reduce its impact on climate change. This measure has declined by five percentage points from the results observed in 2018 (although caution is advised in interpreting these results, as there was a modest question wording change this year). A total of 50 percent of Edmontonians indicated they have taken actions to increase energy efficiency in their homes in the past year, reflecting a steady decline over the past two years. Those who have taken actions have largely done so by making investments in home energy efficiency , although such changes are currently less prevalent than in previous years. A total of 61 percent of residents have taken action to reduce greenhouse gas emissions either through improved energy efficiency in the home or other actions, reflecting a decline of five percentage points since 2018. Exhibiting an increase of six percentage points over previous years, 40 percent of Edmontonians are aware of the EnerGuide home evaluation program. Moreover, opinions on the value of such a program are favourable and the proportion confirming they would like to see the results of the evaluation when comparing homes to buy has made steady gains.

Solar Energy and Energy Efficiency

A total of 26 percent of Edmontonians are aware of a program that helps home-owners install solar panels on their home to generate electricity. However, only five percent of Edmonton residents currently have solar panels installed in their home. Edmontonians do appear open to solar panels, as 17 percent of Edmonton home-owners are likely to install solar panels either for the first time or additional ones in the next three years. In addition, the motivation for installing solar panels is driven by economic, energy independence, and environmental considerations, while innovation plays a more minor role. Cost is the primary barrier to installing solar panels. On a different note, Edmontonians also place considerable importance in the energy efficiency of the buildings in which they work, study, play, or shop, as a total of 69 percent of residents indicate that energy efficiency is important for such buildings.

Electric Vehicles

New this year, Edmontonians were asked for their opinions regarding electric vehicles. A total of 61 percent of Edmonton residents are aware of public charging stations for electric vehicles in Edmonton. While 61 percent of residents also indicated they have no experience with electric vehicles, there seems to be building interest in electric vehicles among Edmonton residents. A total of 23 percent of residents have researched electric vehicles, while 15 percent have driven or been a passenger in an electric vehicle. A total of 13 percent of residents have spoken with an electric vehicle owner, and four percent either currently owns an electric vehicle or owned one in the past.

A total of 55 percent of residents are not likely to purchase an electric vehicle in the next three years, with price being the primary barrier. That said, 14 percent of Edmontonians are likely to purchase an electric car in the next three years, with motivation for purchase being centered more around economic benefits or purchase incentives than environmental concerns.

Transportation Choices & Greenhouse Gas Emissions

Residents were also asked about their transportation choices made in the past month. Driving a motor vehicle was most frequently mentioned by Edmontonians as a means of transportation used in the past 30 days, followed by walking on foot, and riding as a passenger of private or public transportation. Edmontonians are split on their likelihood to walk, bike, take public transit or car share for the majority of trips in an attempt to reduce their greenhouse gas emissions. A total of 35 percent of residents indicate that they are likely to do so, while a similar number (34%) believe they are not likely to perform such activities.



Campaigns

A total of 21 percent of residents recall, unaided, seeing or hearing about climate change programs or advertisements from the City of Edmonton. When prompted or aided with specific campaign images, 44 percent of Edmontonians recall at least one of the seven specific images from the *Change for Climate* campaign.



Synopsis

Overall, results suggest some important gains have been made with respect to climate change perceptions. This pertains to concern about climate change, the urgency of the need to act, the need for the City of Edmonton and its residents to do more to prevent climate change, understanding of the impact of transportation choices and workplace and home heating or cooling and electricity use on climate change. Also increased is the personal desire to prevent climate change, as well as the support for taking action on climate change.

At the same time, there seems to be some backward movement. There is decreased recognition that addressing climate change brings economic opportunity. Residents are also less inclined to have taken action to increase energy efficiency in their homes or reduce greenhouse gas emissions. This may reflect a need for residents to be offered more guidance to engage in the next generation of climate change actions. Indeed, there has been a decline in the proportion who affirm they know what to do to make their home more energy efficient and reduce its contribution to climate change.

Opportunities going forward include encouraging dialogue on climate change, as well as understanding of the impact of consumption and food choices on climate change. Behaviourally, there is an opportunity to, among other things, increase the use of environmentally friendly transportation choices to reduce greenhouse gas emissions. Another opportunity is further increasing awareness of the EnerGuide program. Solar panels and electric vehicles reflect low incidence, and thus present long-term opportunities for growth as well.



NARRATIVE
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Feelings Towards Climate Change



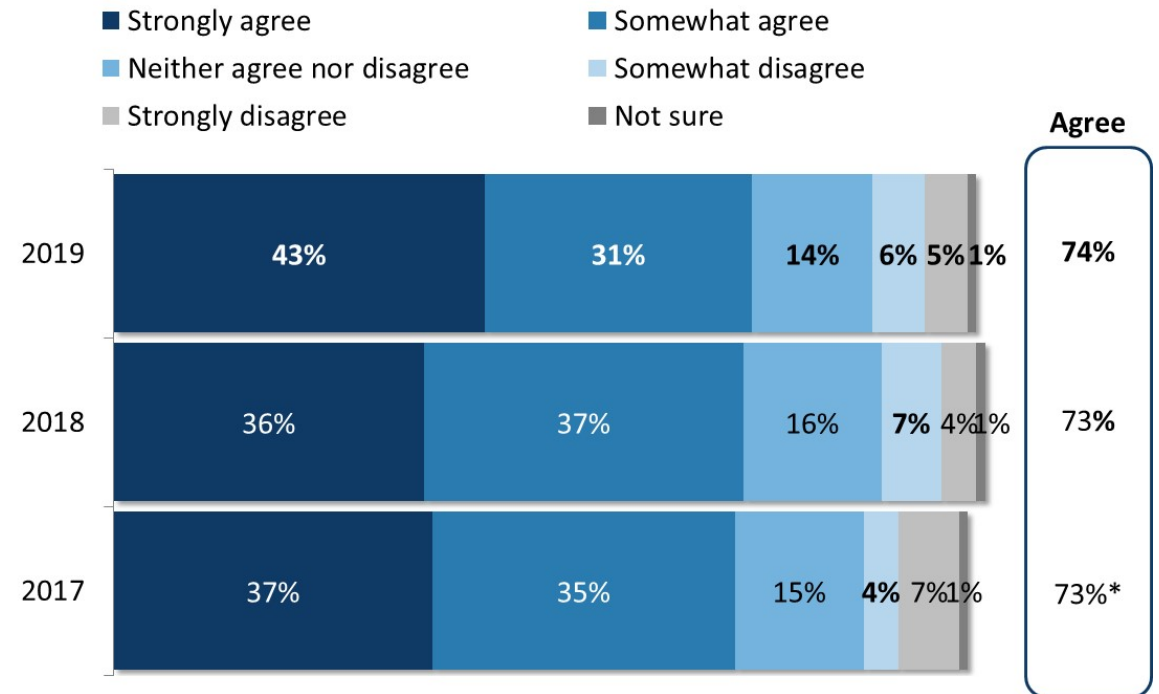
A total of 74 percent of Edmonton residents are concerned about climate change, one percentage point higher than the results from the previous two years. However, the proportion who strongly agree they are concerned has increased.

Concern is most elevated among Edmonton residents who are 18 to 34 years of age, followed by those 35 to 54 years of age, with least concern for climate change noted in residents 55 years of age or older.

Women are also more inclined than men to be concerned about climate change.

I am Concerned about Climate Change

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



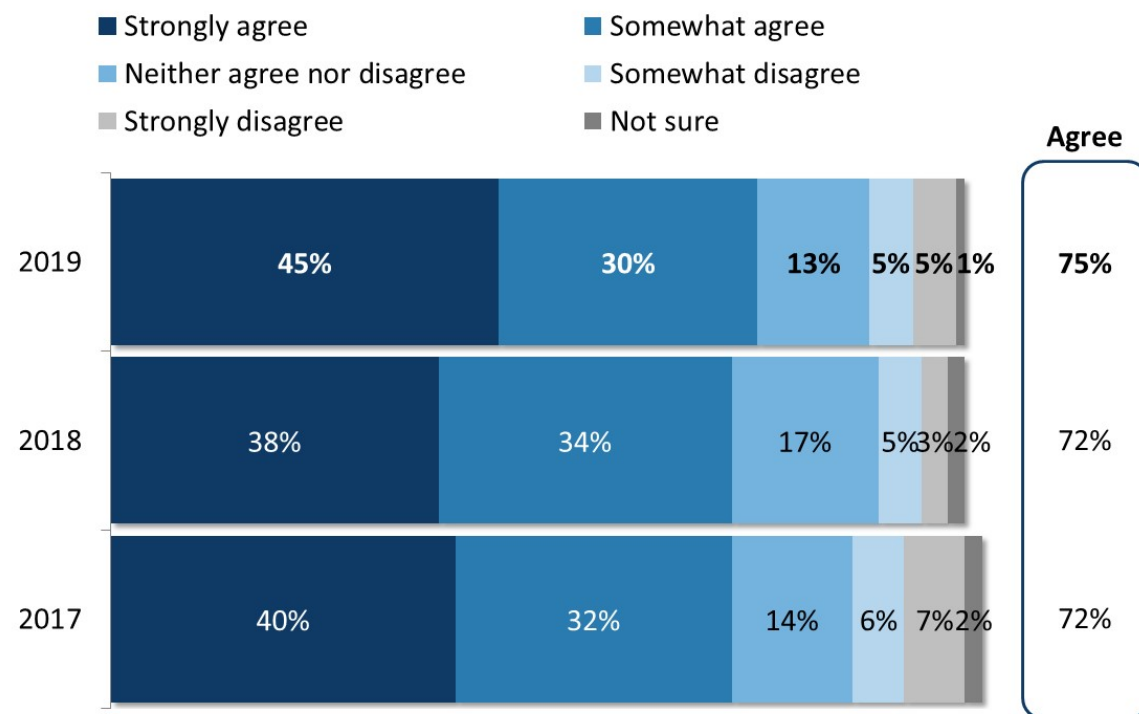
Q.1a: The next few statements are about how you personally feel about climate change. To what extent do you agree or disagree with the following statements? 2017: (n=506); 2018: (n=1000); 2019: (n=1003) *Due to rounding.

A total of 75 percent of Edmonton residents believe immediate action is required to address climate change. The proportion strongly agreeing has increased over previous results.

Younger residents are more inclined than older residents to perceive an immediate need for action on climate change. Women are also more inclined than men to believe immediate action is required to address climate change.

I Think We Need to Act Now to Address Climate Change

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



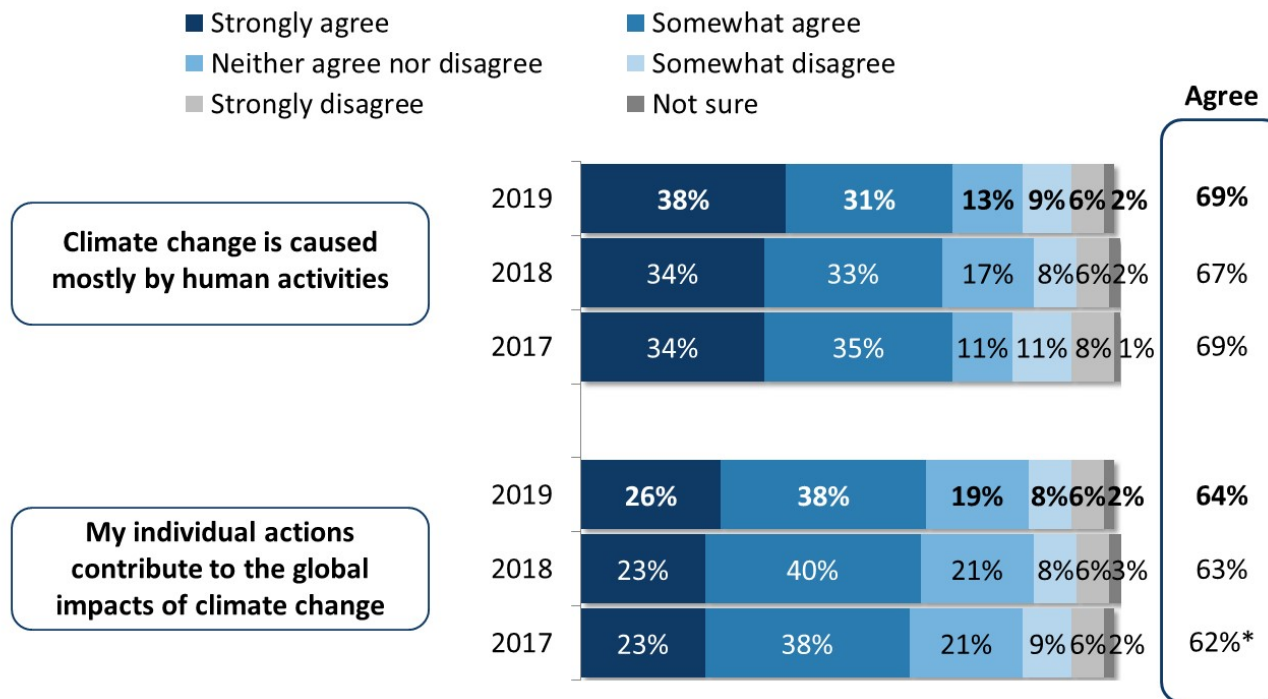
Q.1f: The next few statements are about how you **personally** feel about climate change. To what extent do you agree or disagree with the following statements? 2017: (n=506); 2018: (n=1000); 2019: (n=1003)

A total of 69 percent of Edmontonians believe climate change is caused mostly by human activities, while 64 percent believe their individual actions contribute to the global impacts of climate change. Results are two points and one point, respectively, above those from a year ago.

Agreement is elevated among younger residents, and to a lesser extent among female residents.

Extent Agree with Statement About Climate Change

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



Q.1b-c: 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? 2017: (n=506); 2018: (n=1000); 2019: (n=1003) *Due to rounding.

A total of 70 percent of Edmontonians believe Edmonton residents should be doing more to prevent climate change, while 69 percent wants to do more personally to prevent climate change. Agreement is trending upwards for both measures since 2017.

These perceptions are elevated among younger residents as well as female residents.

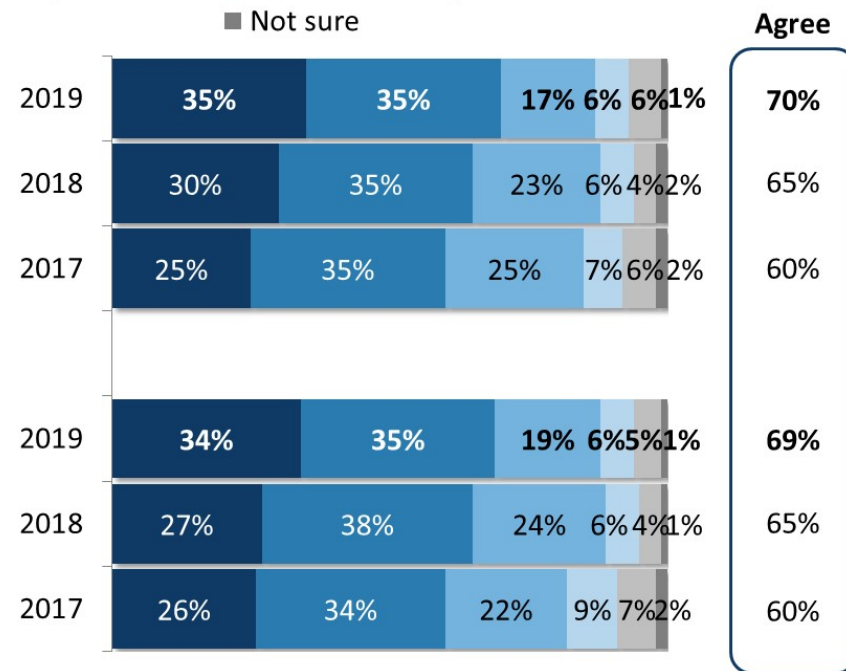
Extent Agree with Statement About Climate Change

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

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

I think Edmontonians should be doing more to help prevent climate change

I want to do more personally to help prevent climate change



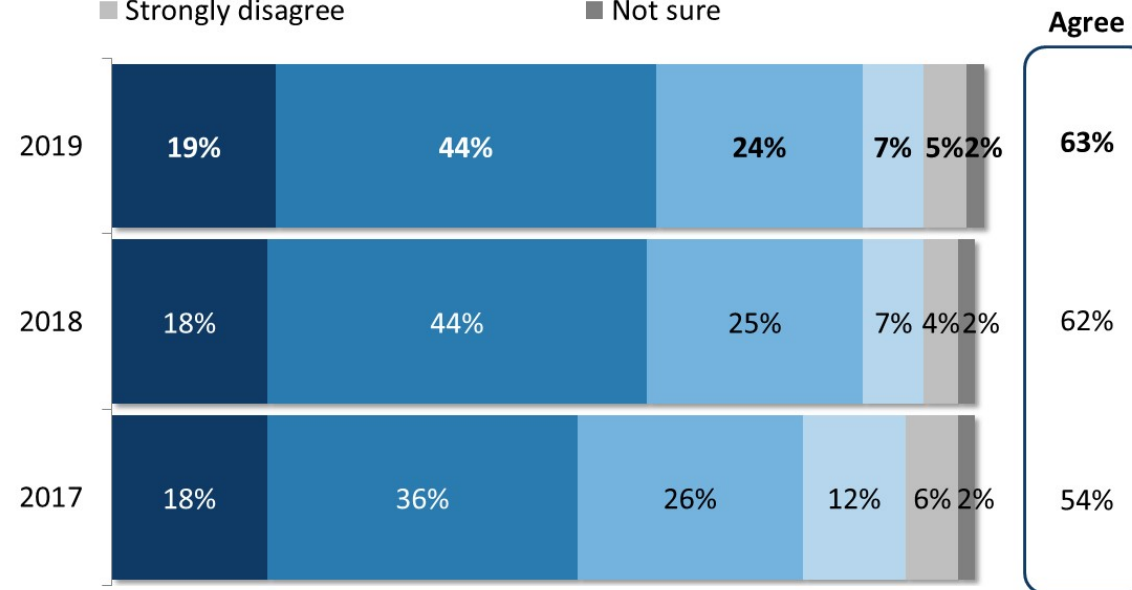
Q.1d-e: The next few statements are about how you personally feel about climate change. To what extent do you agree or disagree with the following statements? 2017: (n=506); 2018: (n=1000); 2019: (n=1003)

A total of 63 percent of Edmonton residents are taking actions to help prevent climate change. This result is one point above that of 2018, and notably above that of 2017.

I am Taking Action to Help Prevent 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.1g: 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? 2017: (n=506); 2018: (n=1000); 2019: (n=1003)



Perceived Opinions of Edmontonians on Climate Change

As in 2017 and 2018, 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. That said, the gap is relatively stable between the two measures: personal opinion and perceived agreement among Edmontonians.

Younger residents are generally more likely than older residents to believe that Edmontonians as a whole hold progressive perceptions regarding matters 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=1000)	2019 (n=1003)	2017 (n=506)	2018 (n=1000)	2019 (n=1003)
Concerned about climate change	39%	47%	47%	34%	25%	27%
Need to act now to address climate change	41%	48%	50%	31%	25%	25%
Climate change is caused mostly by human activities	48%	54%	52%	20%	14%	17%
Edmonton residents should be doing more to help prevent climate change	36%	47%	47%	24%	18%	23%
Want to do more personally to help prevent climate change	35%	44%	44%	25%	21%	25%
Individual actions contribute to the global impacts of climate change	37%	44%	43%	24%	19%	21%
Taking action to prevent climate change	25%	34%	32%	30%	28%	31%

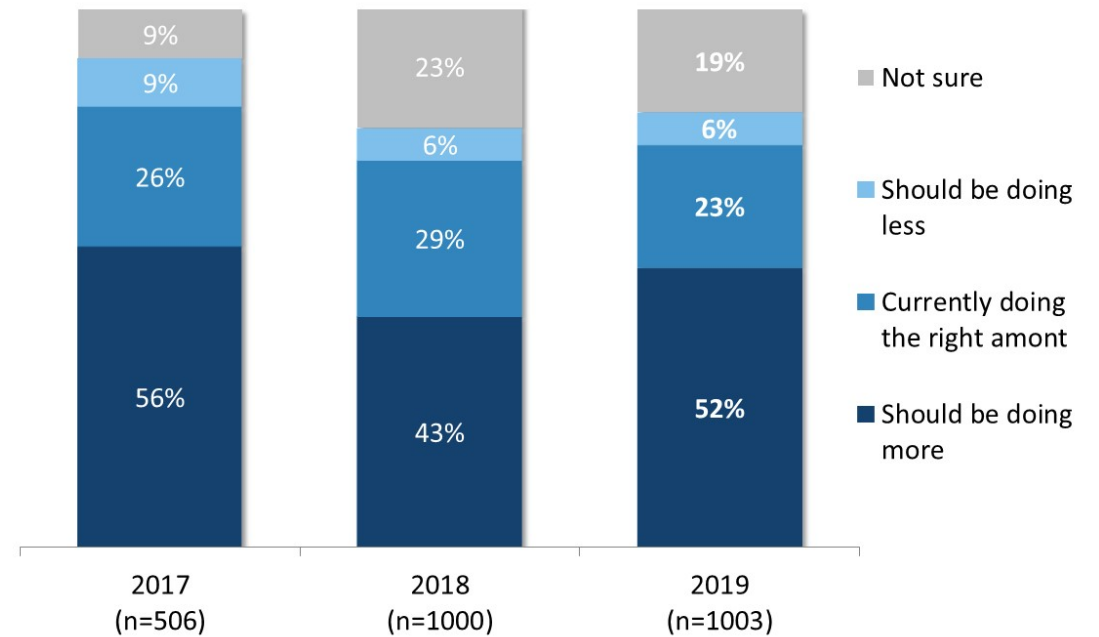
Q.2a-g: The next few statements are about how you think **Edmontonians** feel about climate change. To what extent do you agree or disagree with the following statements? **Note: The GAP figures presented here are based on calculations rounded to the nearest percent.*

Compared with 2018, more Edmontonians now believe the City should be doing more than what it is doing currently to address climate change.

This circumstance reflects a rebound in this measure, with results similar to those observed in 2017. While 23 percent of Edmontonians feel the City is currently doing the right amount to address climate change, 19 percent of Edmonton residents are not sure of what the City is doing to address climate change.

Opinion that the City of Edmonton should be doing more than what it is currently doing to address climate change is elevated among residents who are 18 to 34 years of age. It should also be noted that the proportion uncertain regarding the City's current efforts increases with age.

Perception of the Amount Being Done by the City of Edmonton to Address Climate Change



Q.3: 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?



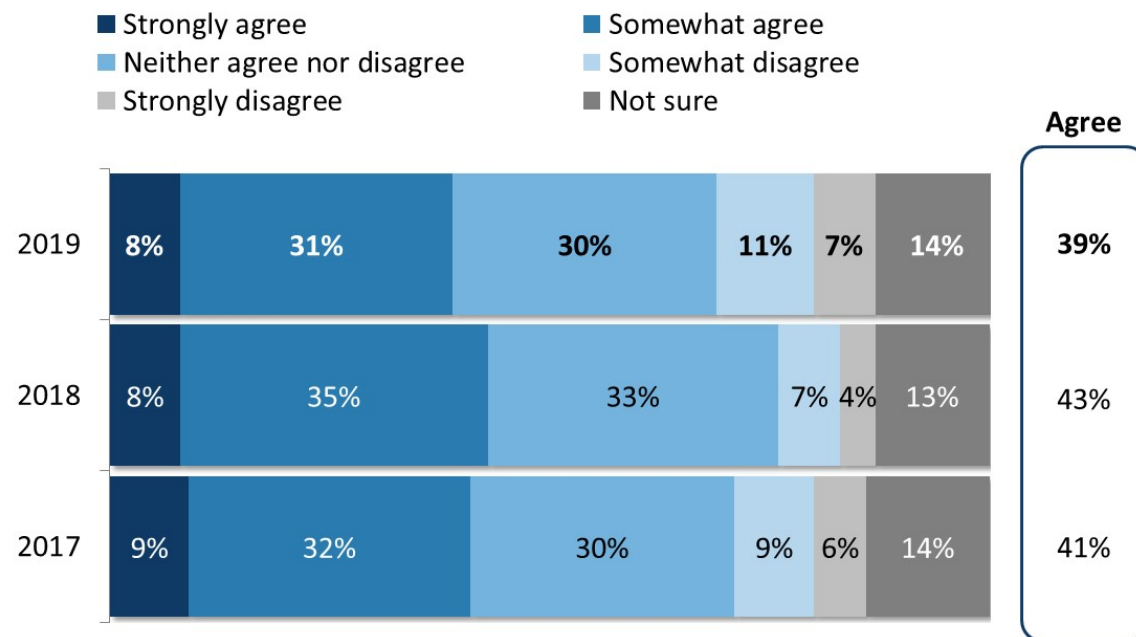
City of Edmonton's Actions to Address Climate Change

A total of 39 percent of residents perceive that the City of Edmonton is taking the right actions to address climate change in 2019, compared with 43 percent in 2018.

Agreement in this regard is slightly higher among residents under 55 years of age, as compared to older residents.

Extent Agree that City of Edmonton Is Taking the Right Action to Address Climate Change

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



Q.4d: To what extent do you agree or disagree with the following statements about climate change? 2017: (n=506); 2018: (n=1000); 2019: (n=1003)



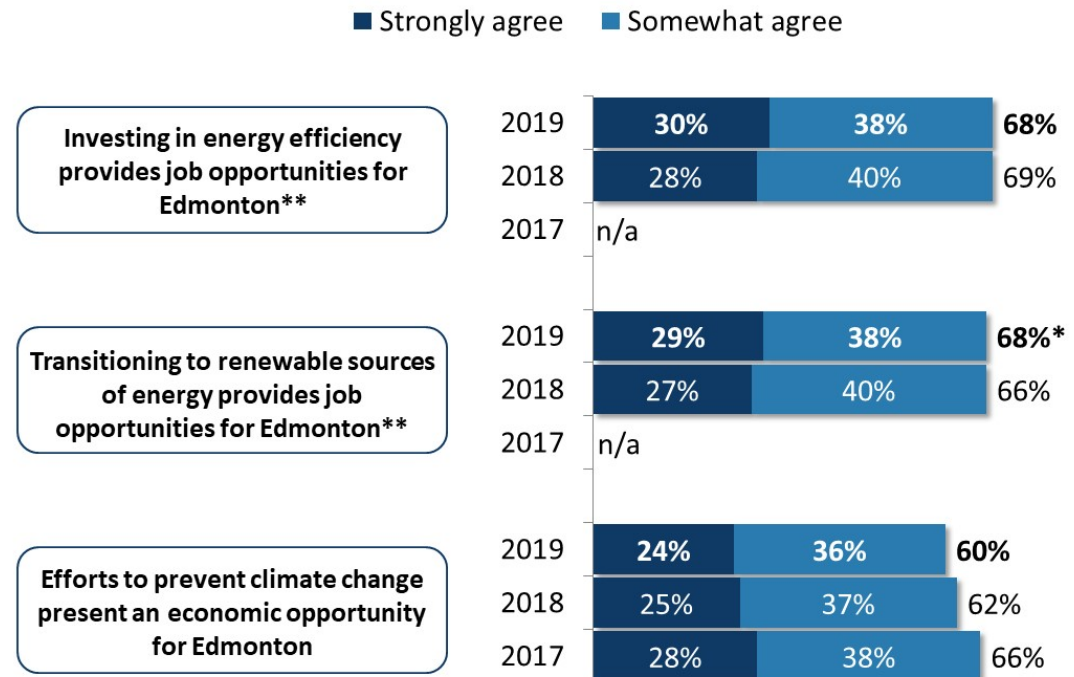
Between 60 percent and 68 percent of Edmontonians recognize economic and employment opportunities associated with notions examined in the research regarding of energy efficiency and addressing climate change. However, agreement that efforts to prevent climate change present an economic opportunity has trended down slightly over the past two years.

A total of 68 percent of Edmontonians agree that investing in energy efficiency and transitioning to renewable energy sources provides job opportunities for the City, while 60 percent agree that efforts to prevent climate change present an economic opportunity for Edmonton.

Agreement with each measure is generally higher among Edmontonians who are 18 to 54 years of age.

Economic and Employment Impacts

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



Q.4a-c: To what extent do you agree or disagree with the following statements about climate change? 2017: (n=506); 2018: (n=1000); 2019: (n=1003) *Due to rounding. **New question in 2018.



Knowledge remains generally widespread regarding the impact of various human actions on greenhouse gas emissions and climate change, although there is a slight downward trend evident in certain measures.

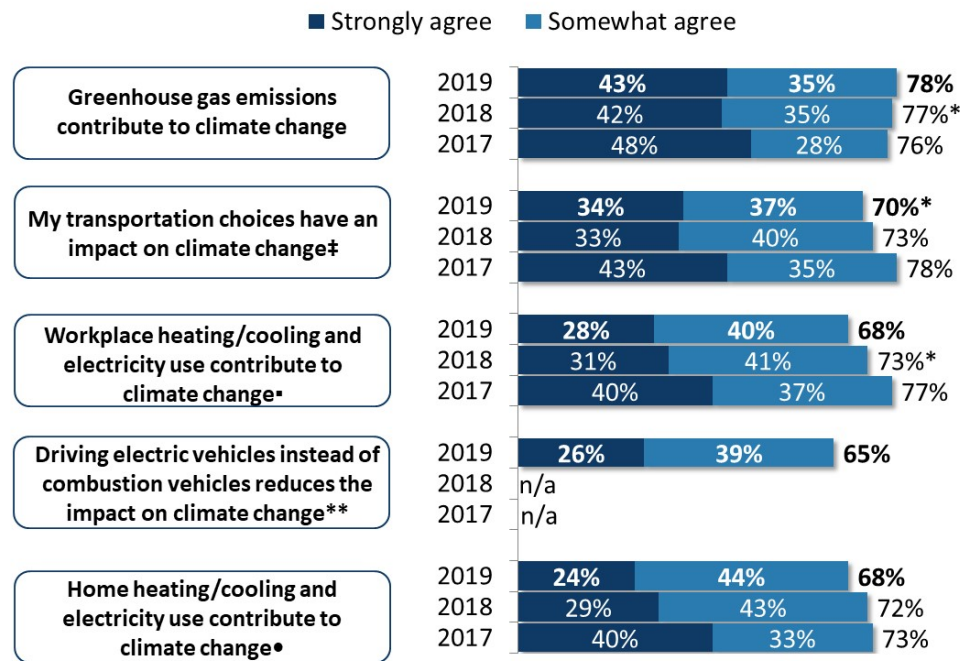
Younger residents are more likely than older residents (55 plus years old) to agree with all five statements regarding impact on climate change.

Of note, women are more likely than men to perceive their transportation choices have an impact on climate change.

Please note, readers are reminded that the 2019 wording of these statements (as well as others in this report) changed somewhat as compared to previous iterations of this research. Mention of such instances is made underneath the graphic displayed on this slide.

Impact of Actions on Climate Change

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



Q.4e-i: To what extent do you agree or disagree with the following statements about climate change? 2017: (n=506); 2018: (n=1000); 2019: (n=1003) *Due to rounding. ‡Change in wording in 2019, previously: "My transportation choices impact greenhouse gas emissions". •Change in wording in 2019, previously: "Workplace heating/cooling and electricity use contribute to greenhouse gas emissions". **New statement in 2019. •Change in wording in 2019, previously: "Home heating/cooling and electricity use contribute to greenhouse gas emissions".

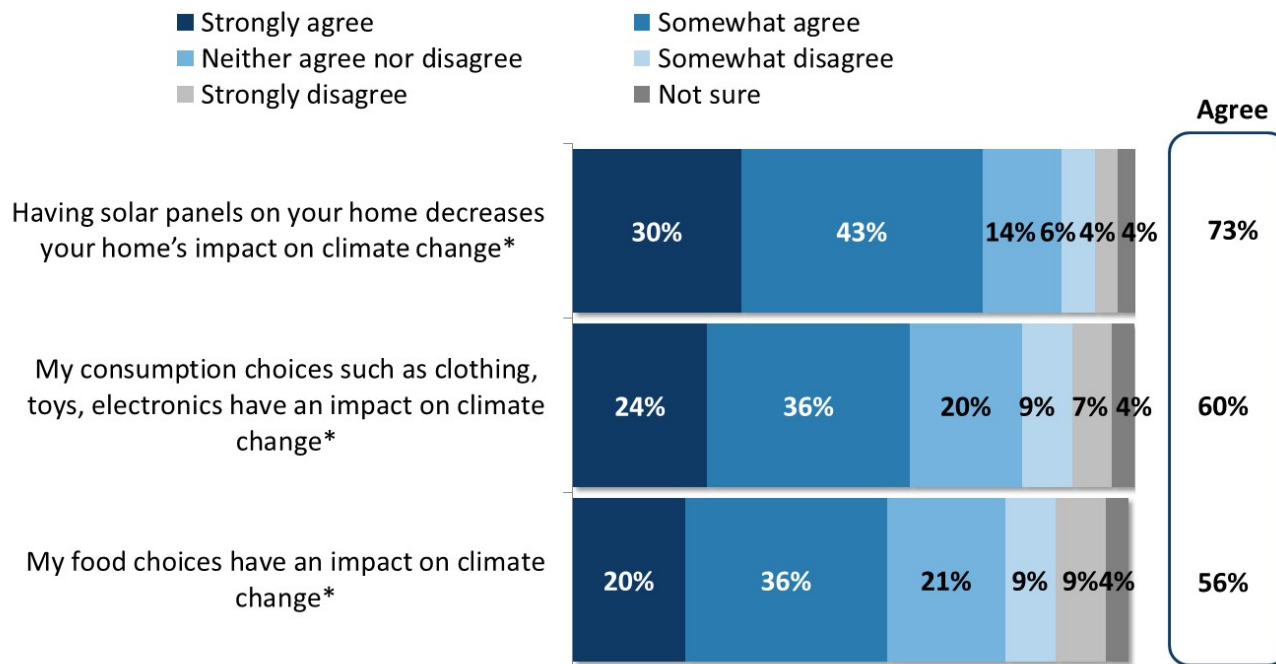
While 73 percent of Edmontonians agree that having solar panels installed in their homes decreases the impact their homes have on climate change, agreement on the climate change impact of their consumption and food choices is less robust.

Edmontonians who are 55 plus years old are less likely than others to agree that having solar panels installed decreases the impact their home has on climate change.

Older residents, men, and those with less than post-secondary education are less inclined than their respective counterparts to believe their consumption and food choices have an impact on climate change.

Impact of Actions on Climate Change

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

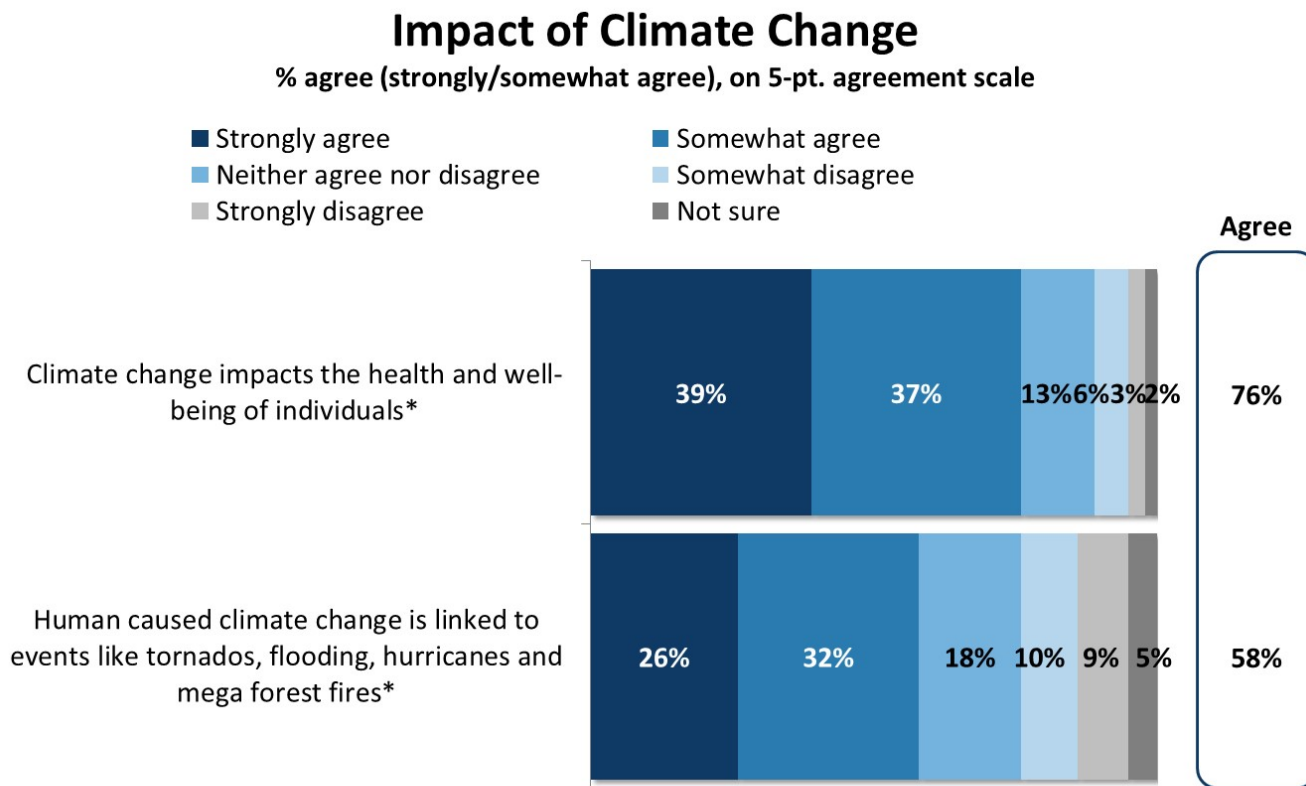


Q.4j-k, n: To what extent do you agree or disagree with the following statements about climate change? (n=1003) *New statement in 2019.

A total of 76 percent of Edmontonians agree that climate change impacts the health and well-being of individuals. Meanwhile, a total of 58 percent of residents believe that human caused climate change is linked to the occurrence of natural disasters.

Edmontonians who are 55 years of age or older as well as men are less likely to agree climate change impacts the health and well-being of individuals.

Older residents (55 plus years old) are also less likely to believe that human caused climate change is linked to events like tornados, flooding, hurricanes, and mega forest fires.

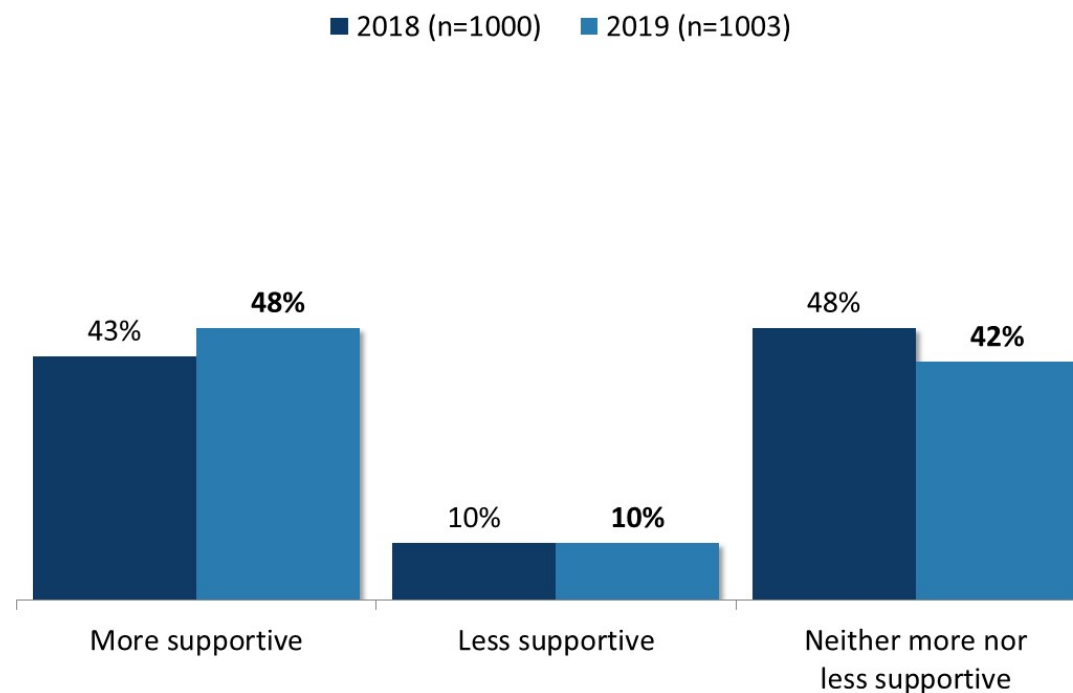


Q.4I-m: To what extent do you agree or disagree with the following statements about climate change? (n=1003) *New statement in 2019.

A total of 48 percent of Edmontonians have become more supportive in the past year of taking action on climate change, an increase of five percentage points from 2018 results. While 42 percent residents are neither more nor less supportive of taking action on climate change, ten percent residents have become less supportive of taking action on climate change in the past year.

The likelihood of becoming more supportive of taking action on climate change in the past year is more so elevated among Edmontonians who are 18 to 34 years of age.

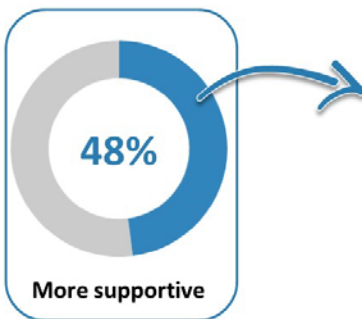
Shift in Support of Taking Action on Climate Change in Past Year



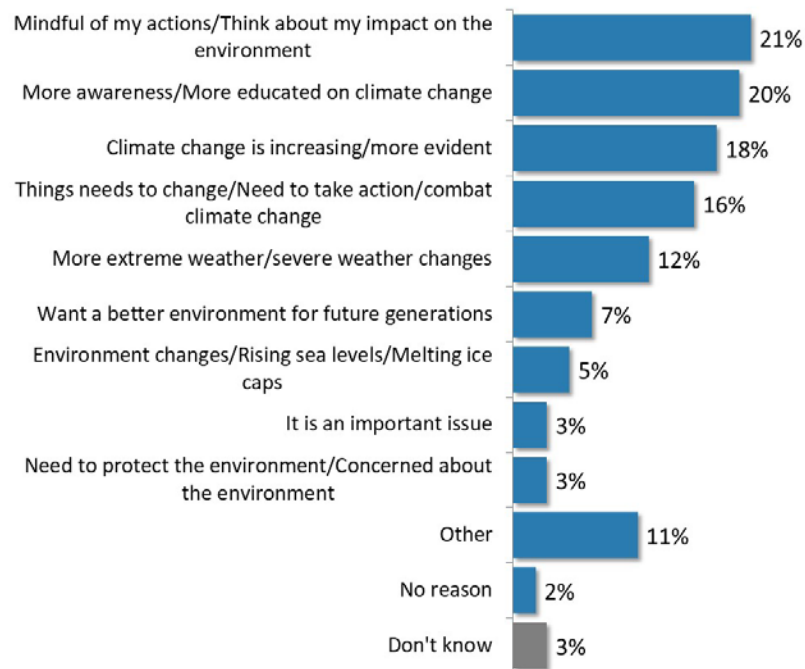
Q.5: In the past year, have you become more or less supportive of taking action on climate change? *New question in 2018.*

Among the 48 percent of Edmontonians who have become more supportive of taking action on climate change in the past year, there are a wide variety of reasons for this change in opinion.

The most prevalent reasons for becoming more supportive of taking action on climate change include becoming more mindful of the impact of individual actions on the environment, becoming more aware of or educated on climate change, belief that climate change is becoming more evident, and a recognition that action is needed to combat climate change.



Reasons More Supportive of Taking Action on Climate Change

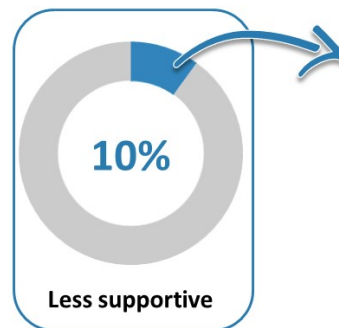


Q.6: [IF MORE SUPPORTIVE IN Q.6] Why has your level of support for taking action on climate change changed in the last year? Please be as specific as possible. (n=474) Note: Question allowed for multiple responses to be selected.

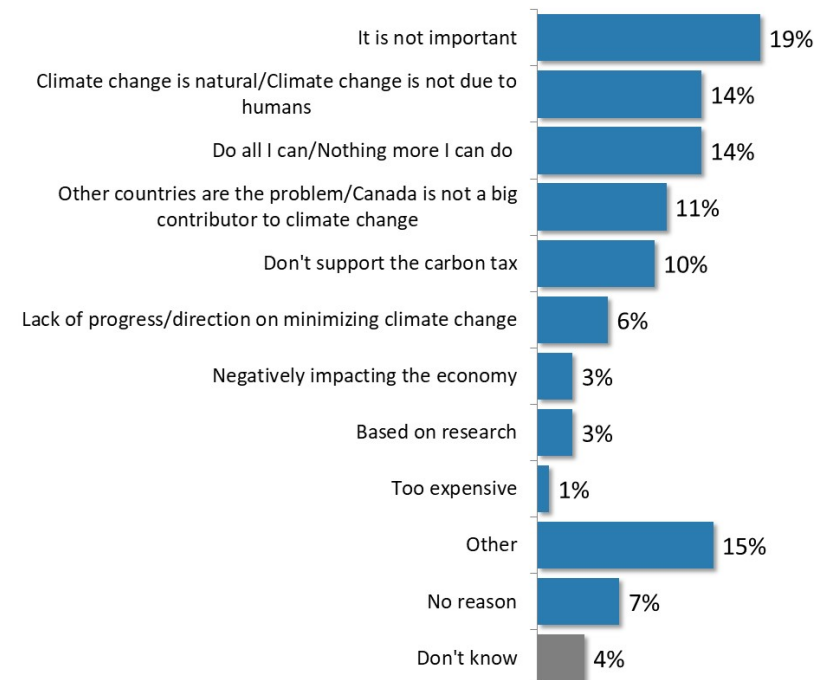
The 10 percent of Edmontonians who have become less supportive of taking action on climate change in the last year have a variety of reasons for this change in opinion.

The most prevalent reasons for becoming less supportive of taking action on climate change are that such residents do not think that climate change is important, believe it is natural and not caused by humans, think there is nothing more they can do, believe Canada is not a big contributor to climate change, and they do not support the carbon tax.

Edmontonians 18 to 34 years of age are more likely than others to mention there is nothing more they can do as a reason for becoming less supportive of taking climate action. Meanwhile, residents 35 to 54 years of age are more likely to mention that climate change is not important, and those 55 plus years old are more likely to cite climate change is natural, as their respective reasons for decreased support.



Reasons Less Supportive of Taking Action on Climate Change



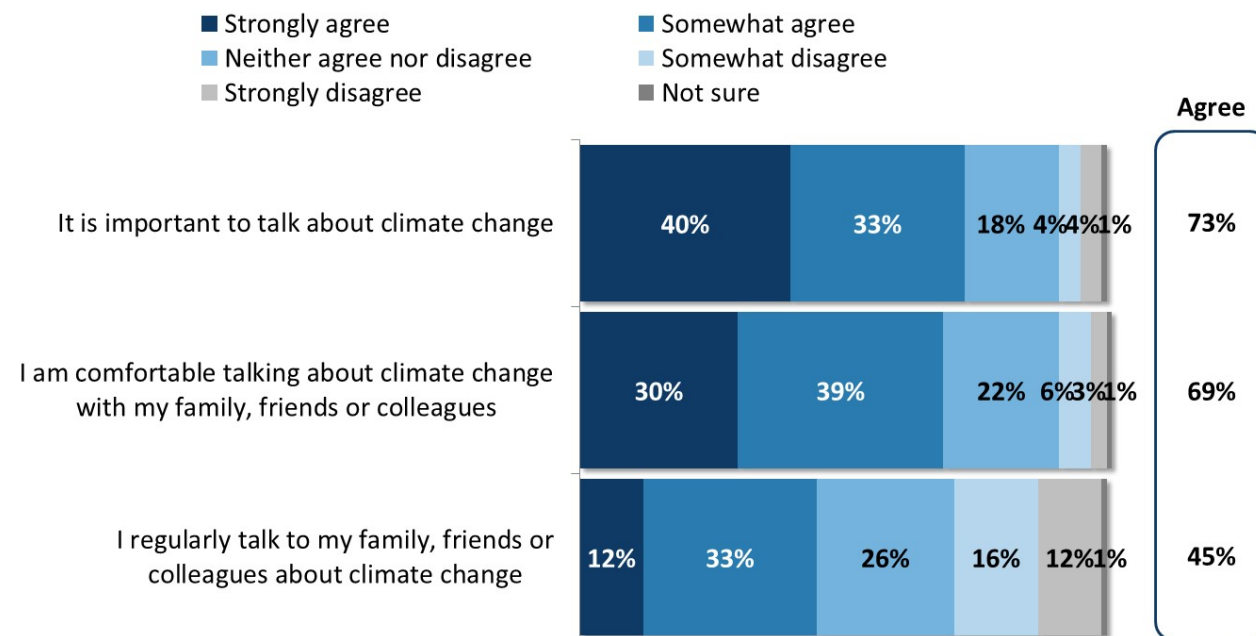
Q.6: [IF LESS SUPPORTIVE IN Q.6] Why has your level of support for taking action on climate change changed in the last year? Please be as specific as possible. (n=97) Note: Question allowed for multiple responses to be selected.

A total of 73 percent of Edmontonians think it is important to talk about climate change. While 69 percent of residents feel comfortable talking about climate change with their family, friends, or colleagues, 45 percent of residents mentioned regularly talking about it.

Younger residents are more inclined to agree on all three of these measures.

Leasers or renters are also more likely than home-owners to think it is important to talk about climate change, which may be reflective of the higher proportion of younger residents who are leasers/renters than home-owners, although this is difficult to determine definitively.

Talking About Climate Change
 % agree (strongly/somewhat agree), on 5-pt. agreement scale



Q.6Aa-c: To what extent do you agree or disagree with the following statements about climate change? 2019: (n=1003) *New questions in 2019.*



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Home Energy Efficiency



Energy Consumption at Home & Impact on Climate Change

A total of 68 percent of Edmontonians agree their home’s energy use and what they do in their homes has an impact on climate change, down two percentage points from previous findings. That said, 64 percent of residents know what can be done to make their home more energy efficient and reduce its contribution to climate change, a decrease of five percentage points from last year’s result.

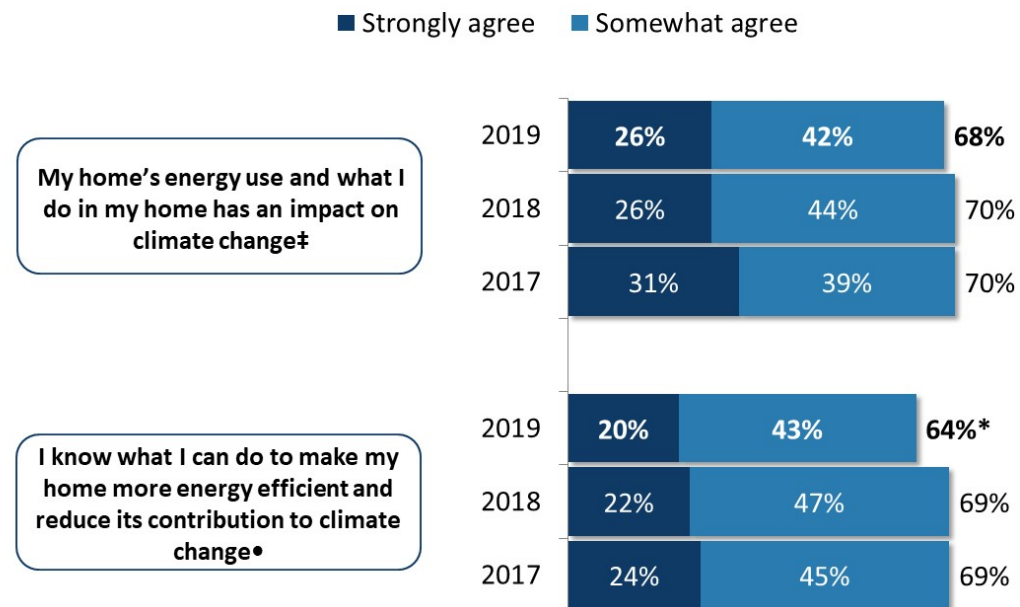
Younger residents are more likely to agree that their home’s energy use and what they do in their home impacts climate change.

Both home-owners and leasers or renters are equally likely to agree their home’s energy use and what they do in their homes has an impact on climate change, but home-owners are more confident than leasers that they know what can be done to make their home more energy efficient.

Please note, readers are reminded that the 2019 wording of these statements (as well as others in this report) changed somewhat as compared to previous iterations of this research. Mention of this is made underneath the graphic displayed on this slide.

The Home and Climate Change

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

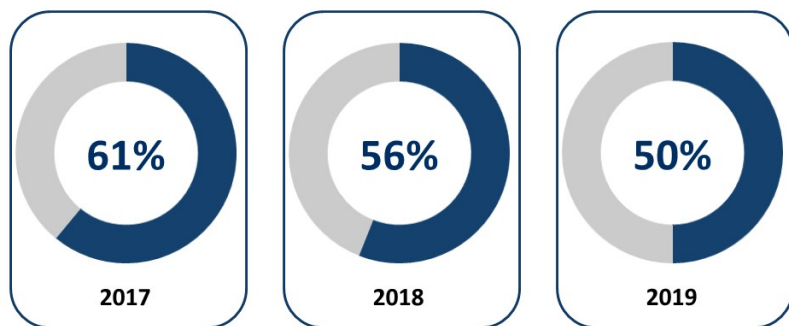


Q.7a-b: To what extent do you agree or disagree with the following statements regarding your home? 2017: (n=506); 2018: (n=1000); 2019: (n=1003) *Due to rounding. ‡Change in wording in 2019, previously: “My home and what I do in it has an impact on climate change”. •Change in wording in 2019, previously: “I know what I can do to make my home more energy efficient”.

A total of 50 percent of Edmontonians indicate they have taken actions to increase energy efficiency in their homes in the past year. This metric has steadily declined over the past two years.

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?
2017: (n=506); 2018: (n=1000); 2019: (n=1003)

The likelihood of having taken actions to increase energy efficiency in the past year is modestly less among women, residents who are 35 to 54 years of age, earn up to \$60,00 in annual household income, and those with less than a high school education. It is notably less among condominium or apartment dwellers as well as leasers or renters. Moreover, the proportion who took action has decreased notably among condominium or apartment dwellers since 2018.

It was revealed upon further analysis that 58 percent of those who own a Fully or Semi Detached home or Townhome have taken actions to increase energy efficiency in the past year.

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

By home ownership and dwelling type

	Home Ownership						Dwelling Type					
	Own			Lease/Rent			Fully/Semi Detached or Townhome			Condo/Apartment		
	2017 (n=369)	2018 (n=732)	2019 (n=681)	2017 (n=129)	2018 (n=268)	2019 (n=322)	2017 (n=375)	2018 (n=741)	2019 (n=717)	2017 (n=110)	2018 (n=242)	2019 (n=266)
% Yes	62%	62%	56%	56%	42%	39%	63%	59%	55%	52%	47%	37%

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

While the proportion of Edmontonians who changed their behaviour to increase energy efficiency in their homes is generally consistent with previous findings, the proportion of residents who made investments in their home has declined. That said, installing energy efficient light bulbs and reducing the use of electricity remain the top actions taken to increase energy efficiency of one's home in the past year.

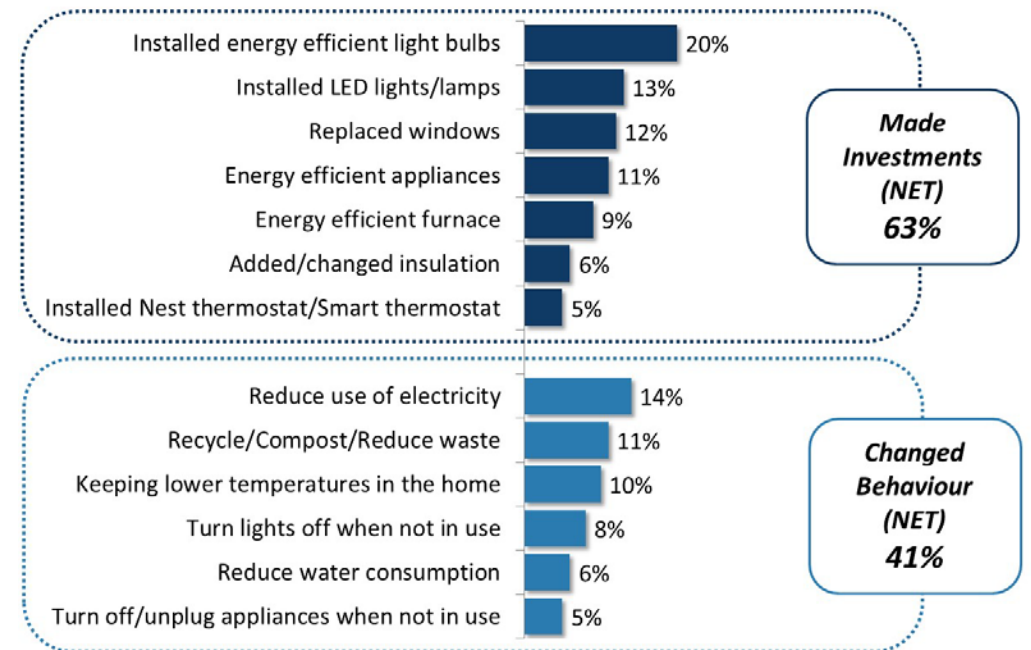
Older Edmontonians, along with residents with higher household incomes, those living in detached and town homes, as well as home-owners, are more likely to have made investments in the past year. Meanwhile, younger residents, those with lower household incomes, apartment or condominium dwellers and leasers/renters are more likely to have changed behaviour in the past year.

While both women and men are equally likely to have made investments in the past year, women are more likely to have changed behaviours in the past year as well.

Of note, the proportion reporting a change in terms of recycling/composting/reducing waste has doubled over the past year, with one in ten now reporting they have done so to increase energy efficiency.

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

Key unaided mentions among those who took actions to increase home's efficiency in past year

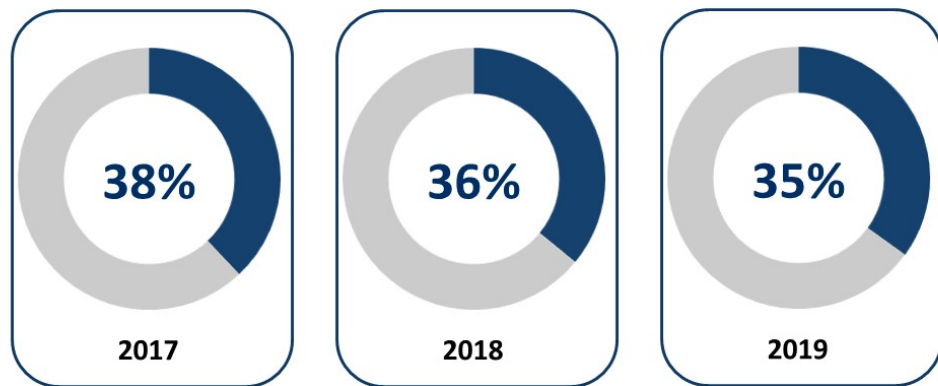


Q.9: [IF 'YES' IN Q.8] What actions have you taken to increase the energy efficiency of your home in the past year? Please be as detailed as possible and reference any City of Edmonton programs that have helped you undertake these actions.(n=500) *Slight change in question wording in 2019. Note: NETs include categories not listed in this key mentions table.*

A total of 35 percent of Edmontonians have taken actions to reduce their greenhouse gas emissions in the past year. This result was 36 percent in 2018.

Taken Actions to Reduce Greenhouse Gas Emissions that Contribute to Climate Change in Past Year

% 'Yes'



Q.10: Have you taken any actions to reduce your greenhouse gas emissions that contribute to climate change in the past year? 2017: (n=506); 2018: (n=1000); 2019: (n=1003)
Slight change in question wording in 2018 and 2019.

Edmontonians who are 18 to 34 years of age are more likely than older residents to have taken actions to reduce greenhouse gas emissions. The likelihood of having taken actions to reduce greenhouse gas emissions in the past year increases with the level of education of residents. That said, it is relatively consistent among subgroups by home-ownership status and dwelling type.

Taken Actions to Reduce Greenhouse Gas Emissions in Past Year

By home ownership and dwelling type

	Home Ownership						Dwelling Type					
	Own			Rent/Lease			Fully/Semi Detached or Townhome			Condo/Apartment		
	2017 (n=369)	2018 (n=732)	2019 (n=681)	2017 (n=129)	2018 (n=268)	2019 (n=322)	2017 (n=375)	2018 (n=741)	2019 (n=717)	2017 (n=110)	2018 (n=242)	2019 (n=266)
% Yes	38%	37%	33%	39%	33%	38%	38%	37%	34%	43%	30%	37%

Q.10: Have you taken any actions to reduce your greenhouse gas emissions that contribute to climate change in the past year? Slight change in question wording in 2018 and 2019.

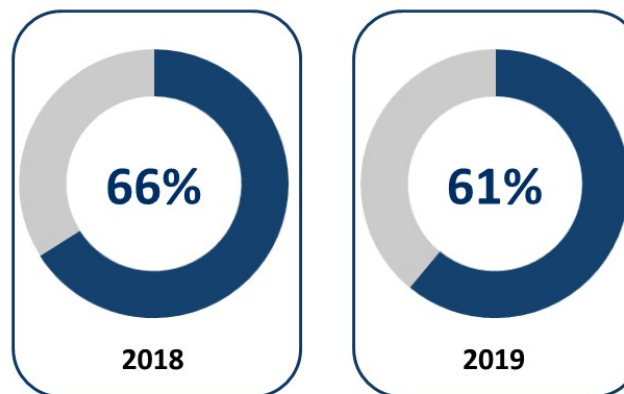
A total of 61 percent of Edmontonians have taken actions to reduce greenhouse gas emissions, a decline of five percentage points from previous results.

As improving energy efficiency in the home is a means of reducing greenhouse gas emissions, a combined overall total was derived for those who have improved their home's energy efficiency, and/or confirmed that they have taken actions to reduce greenhouse gas emissions.

Overall, by this calculation, 61 percent of Edmontonians have taken actions to reduce greenhouse gas emissions, a decline of five percentage points from previous results.

Taken Actions to Reduce Greenhouse Gas Emissions – Improved Home's Energy Efficiency and/or Other Actions

% 'Yes'



Q.8: Have you taken any actions to increase the energy efficiency of your home in the past year? / Q.10: Have you taken any actions to reduce your greenhouse gas emissions that contribute to climate change in the past year? 2018: (n=1000); 2019: (n=1003) *Slight change in question wording in 2018 and 2019.*



Actions to Reduce Greenhouse Gas Emissions

Among Edmontonians who have taken actions to reduce their greenhouse gas emissions, changing behaviour continues to be more common than making investments (e.g., energy efficient purchases), with actions involving changes in transportation habits such as taking public transit, less driving, and walking, along with recycling representing the most commonly identified changes in behaviour.

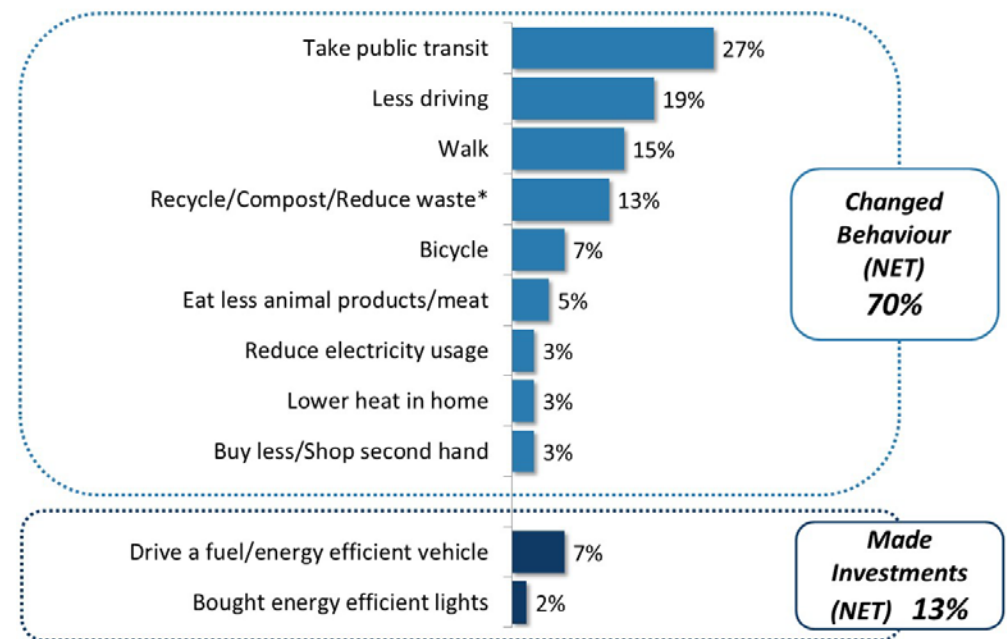
Compared with results last year, a smaller proportion of residents indicate they are driving less to reduce their greenhouse gas emissions, mimicking results observed in 2017.

Changing one’s behaviour to reduce greenhouse gas emissions is more likely to be mentioned by women, and those with lower annual household incomes. Meanwhile, residents 35 to 54 years old and those with higher annual household incomes are more likely to have made investments in the past year. Women are equally likely as men to have made investments. The likelihood of changing behaviour to reduce greenhouse gas emissions is higher among leasers/renters, as well as condominium/apartment dwellers.

Please note that “investments made” in this question refers to investments by Edmontonians towards reducing greenhouse gas emissions, while those discussed previously referred to investments made particularly towards home energy efficiency improvements.

Actions Taken to Reduce Greenhouse Gas Emissions in Past Year

Key unaided mentions among those who took actions to reduce their GHG emissions in past year

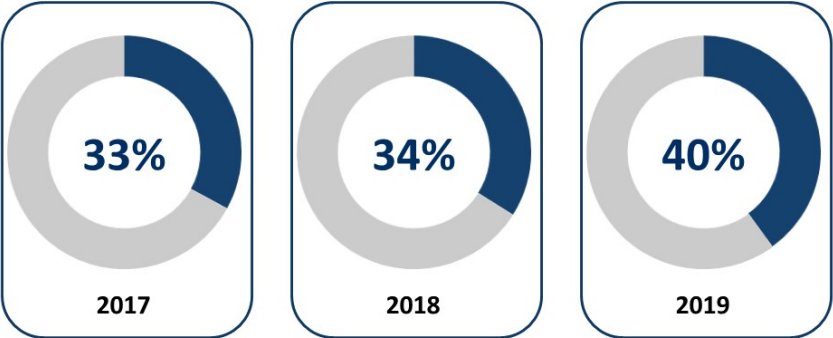


Q.11: [IF 'YES' IN Q.10] What actions have you taken to reduce your greenhouse gas emissions that contribute to climate change in the past year? Please be as detailed as possible and reference any City of Edmonton programs that have helped you undertake these actions. (n=347) Slight change in question wording in 2018 and 2019. Note: NETs include categories not listed in this key mentions table.

A total of 40 percent of Edmontonians indicate awareness of the City’s EnerGuide home evaluation program, an increase of six percentage points over previous results.

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? 2017: (n=506); 2018: (n=1000); 2019: (n=1003) *Slight change in question wording in 2019.*

Awareness of the EnerGuide program increases with age. Home-owners are more likely than leasers or renters to report awareness of the program, which would be as expected given that the program is aimed at home-owners. In this regard, it is of note that awareness has grown among home-owners over the past two years.

Aware of EnerGuide Program

By home ownership and dwelling type
% Yes

	Home Ownership						Dwelling Type					
	Own			Rent/Lease			Fully/Semi Detached or Townhome			Condo/Apartment		
	2017 (n=369)	2018 (n=732)	2019 (n=681)	2017 (n=129)	2018 (n=268)	2019 (n=322)	2017 (n=375)	2018 (n=741)	2019 (n=717)	2017 (n=110)	2018 (n=242)	2019 (n=266)
% Yes	34%	37%	44%	33%	27%	31%	35%	35%	42%	28%	32%	36%

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? *Slight change in question wording in 2019.*

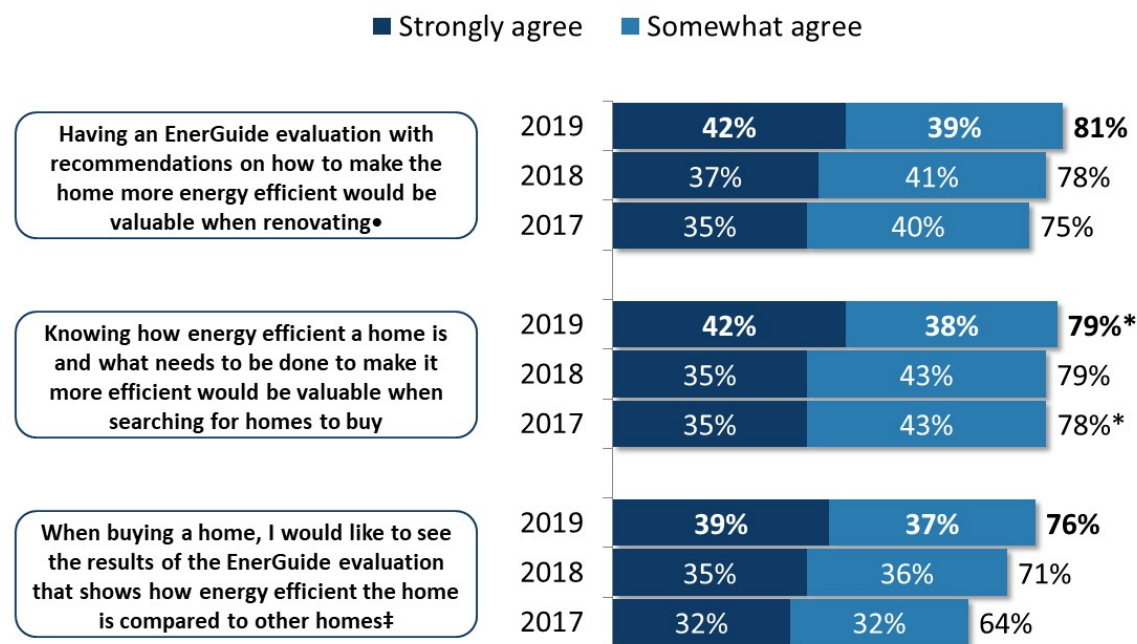
Between 76 percent and 81 percent of Edmontonians continue to provide favourable ratings of different value aspects of the EnerGuide program, when considering home renovations or searching for a home to buy. Moreover, over the last two years there have been steady and notable gains (of 12 percentage points) in anticipated use, when buying a home, of the results of the EnerGuide evaluation to compare the energy efficiency of homes.

The proportion who would like to see the EnerGuide evaluation to compare homes has trended upward notably over the past two years (although there has been a change in the question wording so caution is advised when interpreting these results). The proportion indicating an EnerGuide evaluation would be helpful when renovating has also trended upward, albeit more modestly.

Please note, once again readers are reminded that the 2019 wording of these statements (as well as others in this report) changed somewhat as compared to previous iterations of this research. Mention of this is made underneath the graphic displayed on this slide.

Opinions on EnerGuide Evaluation

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



Q.15a-c: To what extent do you agree or disagree with the following statements about energy efficiency? 2017: (n=506); 2018: (n=1000); 2019: (n=1003) *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 2019, previously: "When buying a home, I would like to see the EnerGuide label".



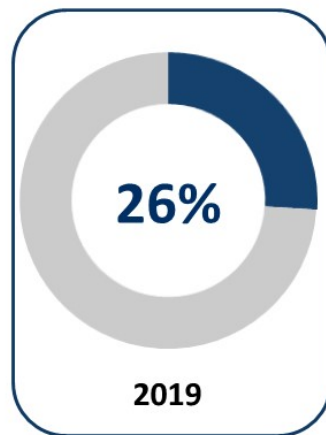
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Solar Energy & Energy Efficiency

A total of 26 percent of Edmontonians are aware of a program that helps home-owners install solar panels on their home.

Heard of Program That Helps Owners Install Solar Panels on Their Home to Generate Own Electricity

% 'Yes'

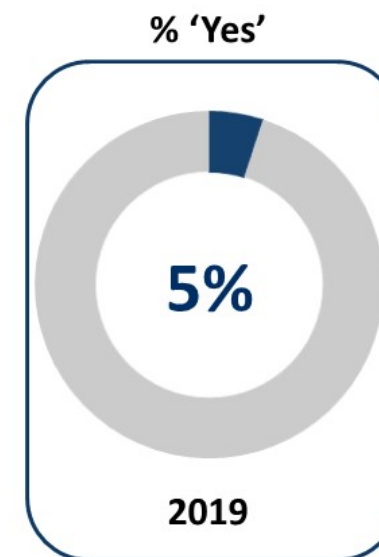


Q.18: Have heard of a City of Edmonton program that helps home owners install solar panels on their home to generate their own electricity?
(n=1003) *New question in 2019.*

The vast majority of Edmontonians do not have solar panels installed in their homes. A total of five percent residents currently have solar panels at their home.

The likelihood of having solar panels installed is more so elevated among residents of north-east Edmonton (9%). It is also higher among home-owners than among renters or leasers, and among younger residents.

Currently Have Solar Panels at Home



Q.20: Do you currently have solar panels at home? (n=1003) *New question in 2019.*

In the next three years, 17 percent of Edmonton home-owners are likely to install additional or first-time solar panels on their homes, as compared to 15 percent in 2018.

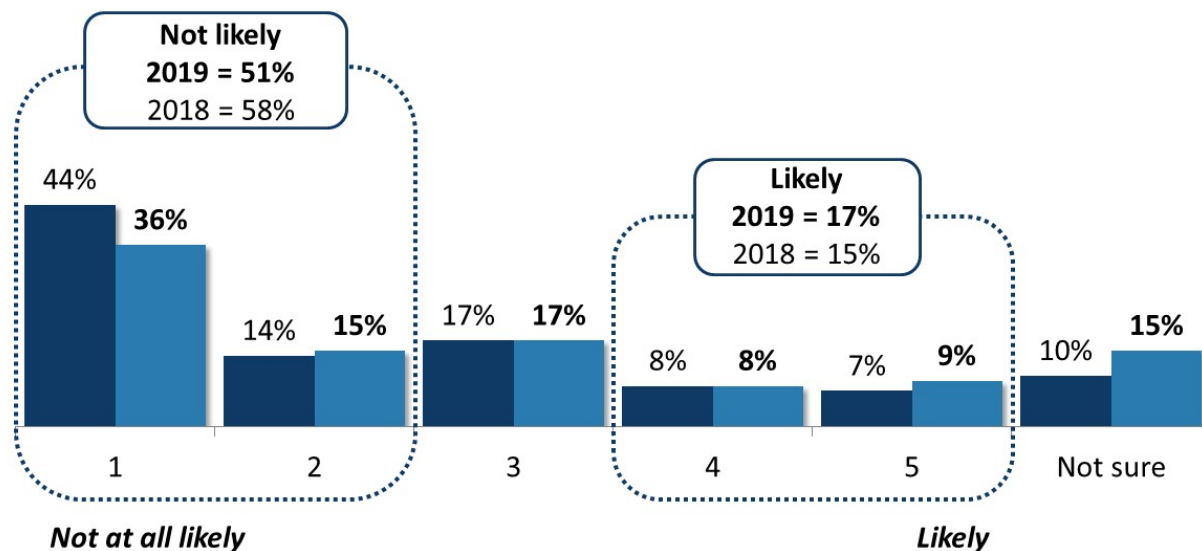
The likelihood of installing solar panels decreases with the age of residents. Edmontonians dwelling in detached houses or townhomes are more likely than condominium or apartment owners to install solar panels.

Further analysis indicates that those who agree that having solar panels on their home decreases the home's impact on climate change, are more likely to have panels installed in the next three years.

Likelihood of Installing Solar Panels on Home in Next 3 Years

Among those who own their primary residence

■ 2018 (n=732) ■ 2019 (n=681)



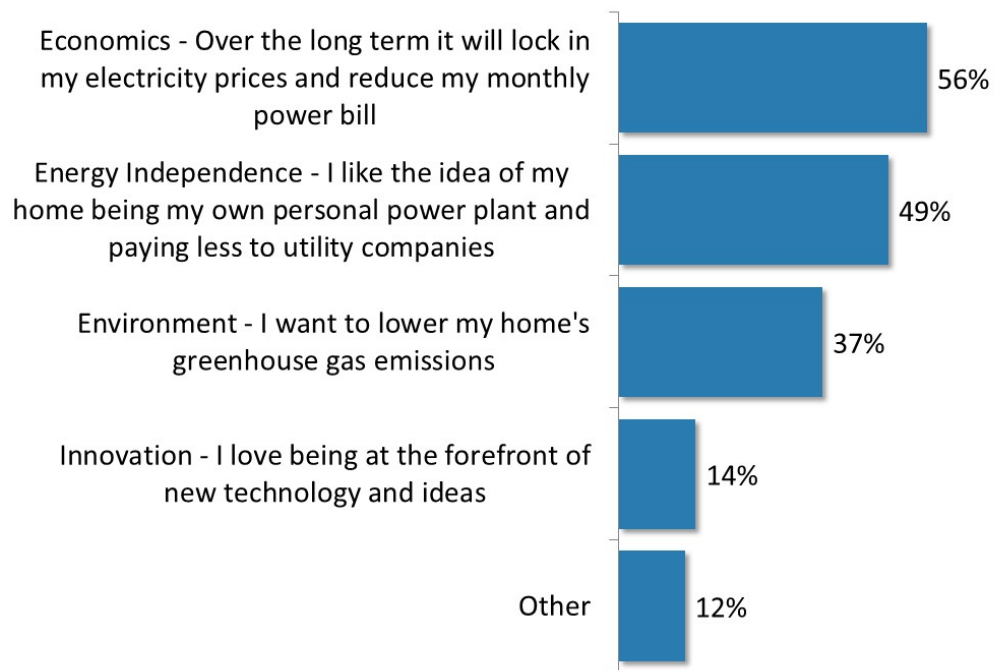
Q.21: [IF 'OWN' IN Q.17 AND 'NO' IN Q.20] How likely is it that you will install solar panels on your home in the next 3 years? / [IF 'OWN' IN Q.17 AND 'YES' IN Q.20] How likely is it that you will install additional solar panels on your home in the next 3 years? *New question in 2018. Slight change in question wording in 2019.*

Economic considerations, followed by energy independence, and environmental considerations, are most often cited by home-owners as motivating factors to install solar panels in homes.

Economic considerations are the most cited consideration across all demographic subgroups. That said, mentions of economics does increase with household income levels.

Motivation to Install Solar Panels on Home

Among those who own their primary residence



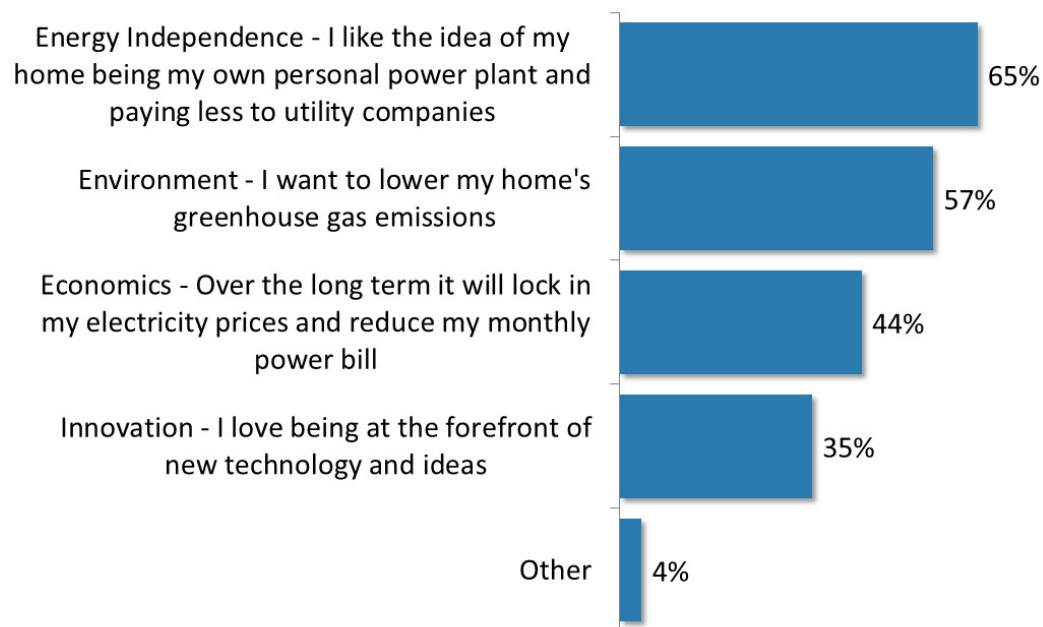
Q.22: [IF 'OWN' IN Q.17 AND 'NO' IN Q.20] Which of the following, if any, would motivate you to install solar panels on your home? / [IF 'OWN' IN Q.17 AND 'YES' IN Q.20] Which of the following, if any, would motivate you to install additional solar panels on your home? (n=681) *Slight change in question wording in 2019. Note: Question allowed for multiple responses to be selected.*

Among only those home owners who are likely to install solar panels in the next three years, energy independence and environmental considerations outrank economics, in contrast to the overall population.

Indeed, energy independence and environmental considerations, as well as innovation are more likely to be motivating factors among this segment, compared to the population overall. In contrast, economics is less likely to be a motivating factor.

Motivation to Install Solar Panels on Home

Among those who own their primary residence and are very likely/likely to install (additional) solar panels on home in next 3 years



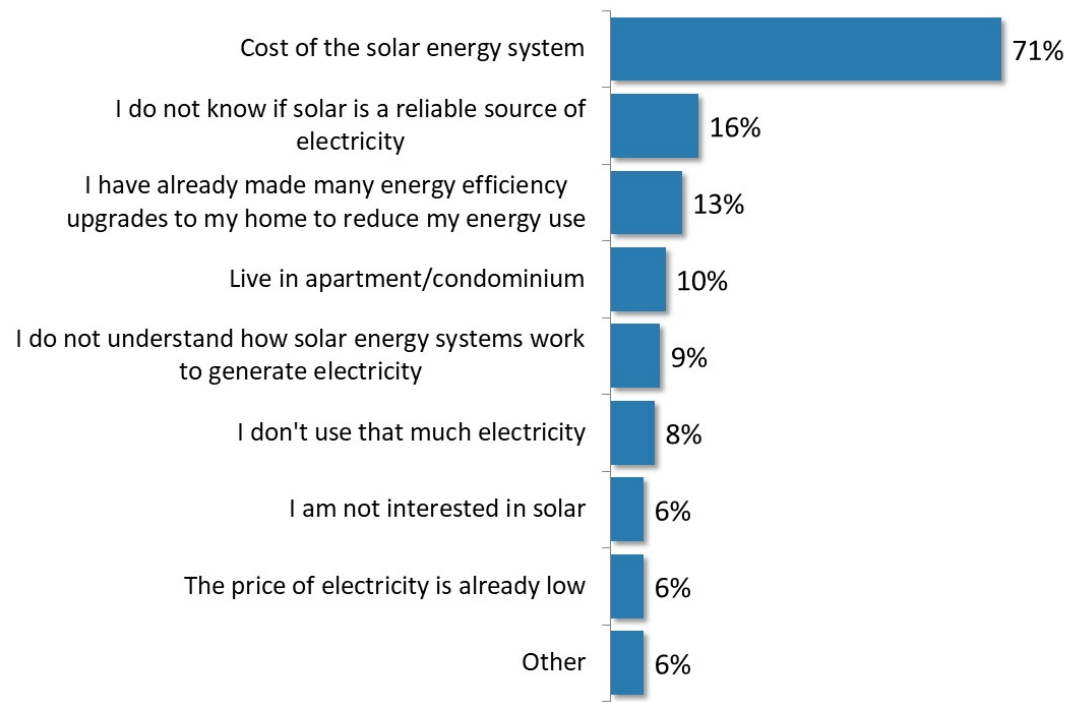
Q.22: [IF 'OWN' IN Q.17 AND 'NO' IN Q.20 AND '4' OR '5' IN Q.21] Which of the following, if any, would motivate you to install solar panels on your home? / [IF 'OWN' IN Q.17 AND 'YES' IN Q.20 AND '4' OR '5' IN Q.21] Which of the following, if any, would motivate you to install additional solar panels on your home? (n=124) *New question in 2018. Slight change in question wording in 2019. Note: Question allowed for multiple responses to be selected.*

Among Edmonton home-owners who are unlikely to install solar panels in the next three years, the most commonly cited factor preventing installation, by a wide margin, is cost. Other factors, mentioned by notably fewer residents, include uncertainty regarding the reliability of solar energy, and perceptions that enough energy efficiency upgrades have been previously made to their homes.

Cost is the most often mentioned factor preventing installation of residential solar energy systems across all demographic subgroups.

Factors Preventing Installation of Solar Panels on Home

Among those who own their primary residence and do not have solar installed on their home

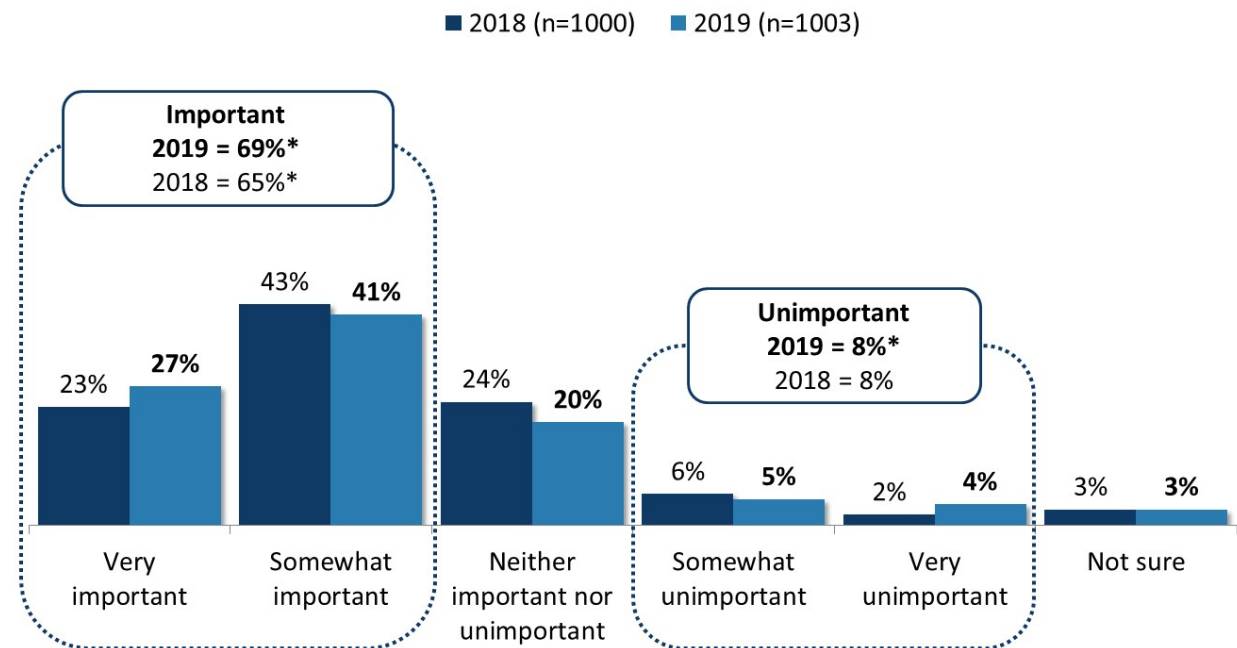


Q.23: [IF 'OWN' IN Q.17 AND 'NO' IN Q.20] What are the most important factors that might prevent you from installing solar panels on your home? (n=640) *New question in 2018. Slight change in question wording in 2019. Note: Question allowed for multiple responses to be selected.*

Edmontonians place considerable importance on the energy efficiency of the buildings in which they work, study, play, or shop, as 69 percent of residents indicate that energy efficiency is important for such buildings.

Edmonton leasers or renters are more inclined than home-owners to place importance on the energy efficiency of buildings, as are younger residents.

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



Q.24: How important or unimportant is it that buildings you work, study, play, or shop in are energy efficient? *New question in 2018. *Due to rounding.*



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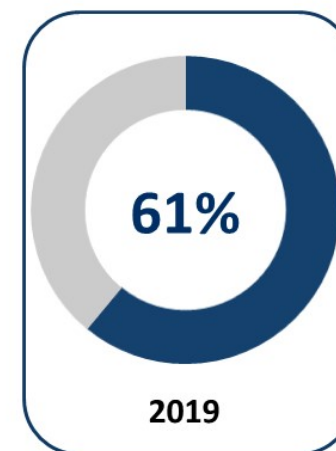
Electric Vehicles

A total of 61 percent of Edmontonians are aware there are public charging stations for electric vehicles in Edmonton.

Awareness in this regard is generally consistent across the different subgroups examined, with the exception of Edmontonians earning more than \$100,000 in annual household income. This high income group is more inclined than others to be aware of public charging stations for electric vehicles in Edmonton.

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

% 'Yes'



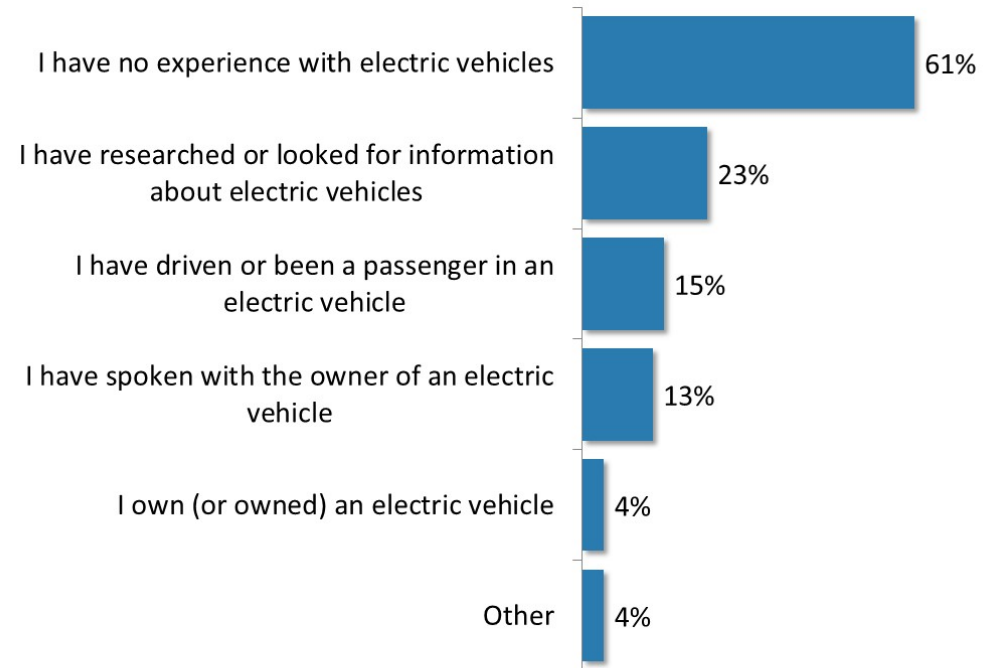
Q.26: Are you aware that there are public charging stations for electric vehicles in Edmonton? (n=1003) *New question in 2019.*

A total of 61 percent of Edmontonians indicate having no experience with electric vehicles. While 23 percent of residents have researched electric vehicles, 15 percent have driven or been a passenger in an electric vehicle. A total of 13 percent of residents have spoken with an electric vehicle owner, and four percent either currently own an electric vehicle or have owned one in the past.

Older residents, women, and residents earning up to \$100,000 in annual household income are more likely than their respective counterparts to have no experience with electric vehicles. Meanwhile, the counterparts to each of the aforementioned subgroups are more likely to have researched or looked for information about electric vehicles.

Edmontonians who are 18 to 34 years of age, men, and those earning more than \$100,000 in annual household income are more inclined to have driven or been a passenger in an electric vehicle, or have spoken to the owner of one. Leasers or renters as well as condominium or apartment dwellers are also slightly more inclined than their counterparts to have driven an electric vehicle or been a passenger in one.

Statements That Personally Apply in Terms of Electric Vehicles

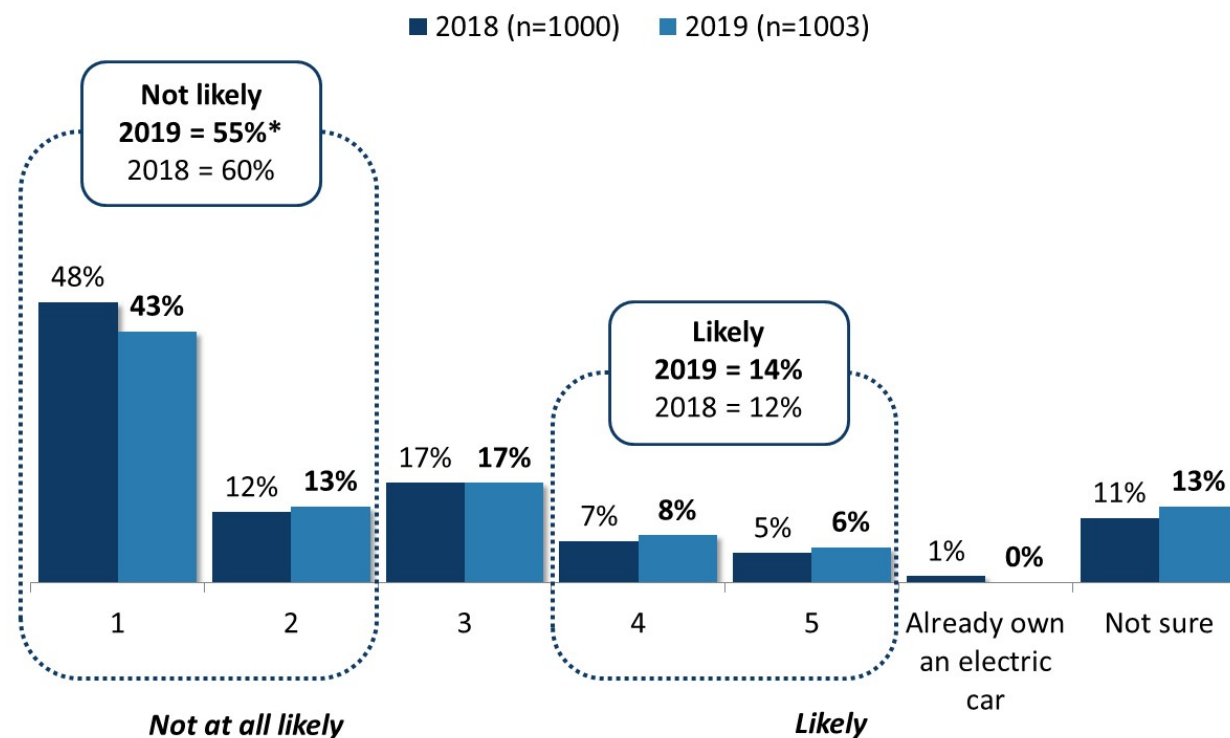


Q.27: Which of the following statements apply to you personally in terms of electric vehicles? Please select as many as apply to you. (n=1003) *New question in 2019. Note: Question allowed for multiple responses to be selected.*

A total of 14 percent of Edmontonians are likely to purchase an electric car in the next three years. A total of 55 percent of residents are not likely to purchase an electric vehicle in the next three years. A total of 13 percent of residents appear more uncertain, either indicating they are not sure or selecting the midpoint on the likelihood scale.

The likelihood of buying an electric car in the next three years is more so elevated among younger residents.

Likelihood of Buying Electric Car in Next 3 Years



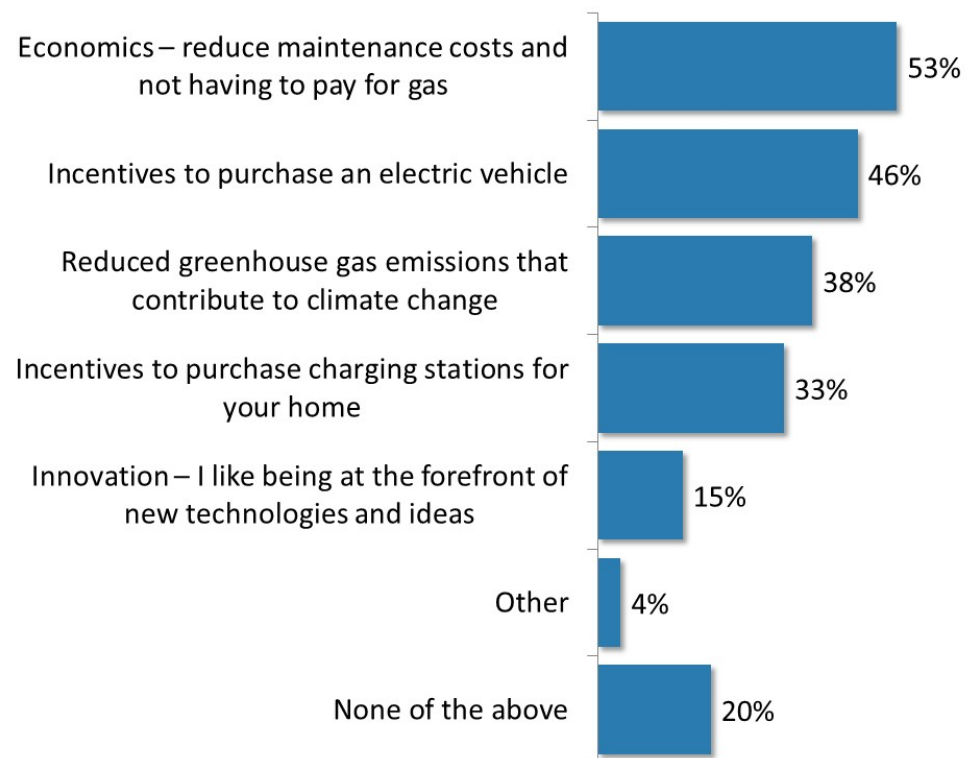
Q.28: How likely or unlikely are you to buy an electric car in the next three years? *Due to rounding. New question in 2018.

Motivating factors for purchasing an electric vehicle are multi-faceted, although economic benefits or incentives rank higher than environmental concerns or innovation.

Younger residents and leasers or renters are more inclined than their respective counterparts to cite reduced greenhouse emissions as a motivating factor for purchasing an electric vehicle.

Economics is more important to younger residents and those with higher annual household incomes, as compared with their counterparts.

Factors Motivating Electric Vehicle Purchase

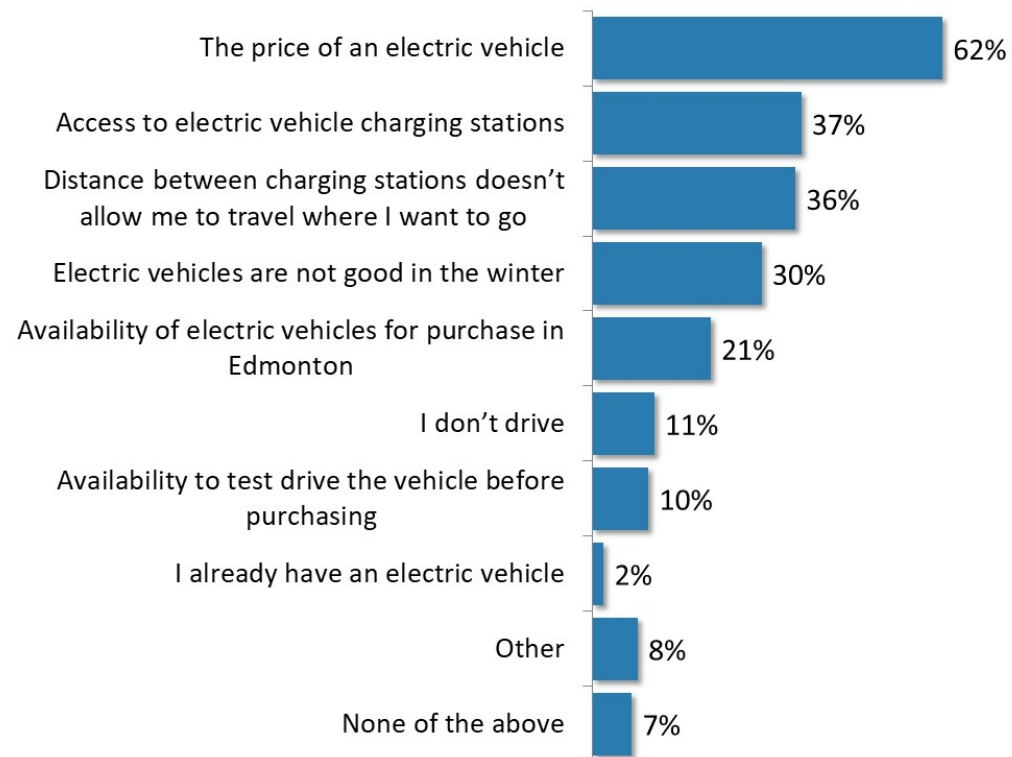


Q.29: Which, if any, of the following factors might be important in motivating you to purchase an electric vehicle? (n=1003)
New question in 2019. Note: Question allowed for multiple responses to be selected.

The price of an electric vehicle is the top factor preventing the purchase of an electric vehicle, followed by issues with access to or distance between charging stations.

Price is most often mentioned as the factor preventing the purchase of an electric vehicle, a finding consistent across all demographic subgroups.

Factors Preventing Electric Vehicle Purchase



Q.30: Which, if any, of the following factors might prevent you from purchasing an electric vehicle? Please select as many as apply to you. (n=1003) *New question in 2019. Note: Question allowed for multiple responses to be selected.*



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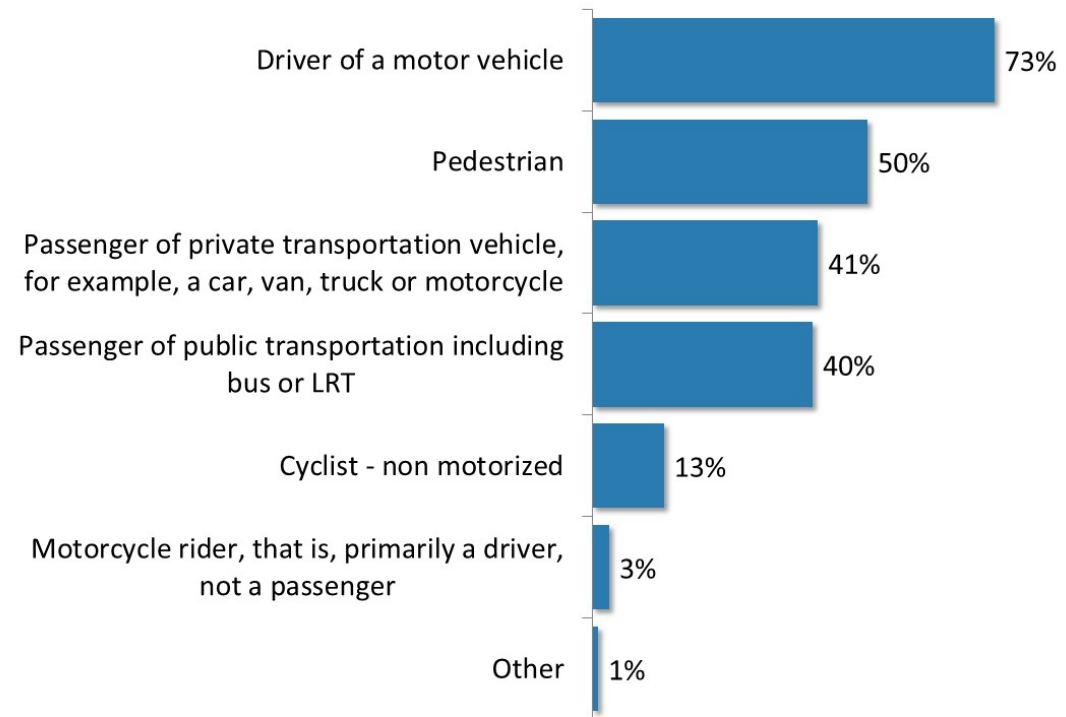
Transportation Choices & GHG Emissions

Driving a motor vehicle is 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 or public transportation.

The likelihood of driving a motor vehicle in past 30 days is elevated among residents of south-west Edmonton, residents who are 35 years of age or older, as well as home-owners and detached or townhome dwellers. Incidence of driving a motor vehicle also increases steadily with household income.

Leasers or renters as well as condominium and apartment dwellers are more inclined to have been pedestrians in past 30 days.

Transportation Used in Past 30 Days

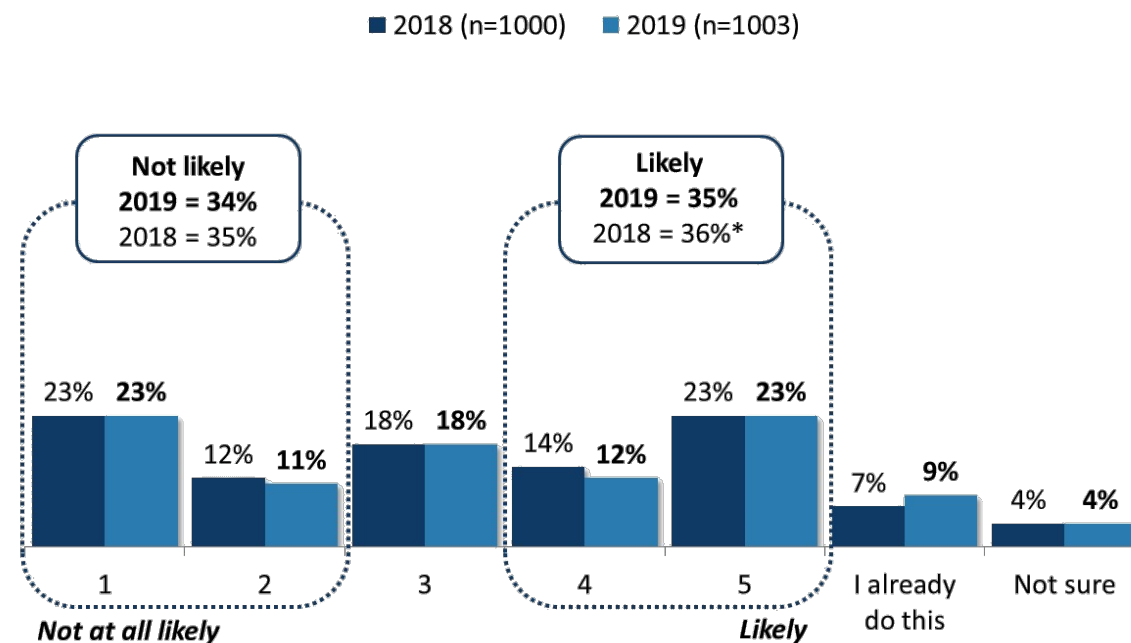


Q.40: In the past 30 days, which of the following modes of transportation have you used for getting around? (n=1001) *Note: Two respondents failed to provide an answer for this question. New question in 2019. Note: Question allowed for multiple responses to be selected.*

Edmontonians are split on their likelihood to walk, bike, take public transit or car share for the majority of trips to reduce greenhouse gas emissions. A total of 35 percent of residents indicate they are likely to do so, while a 34 percent believe they are not likely to perform such activities.

The likelihood of walking, biking, taking public transit or car sharing to reduce greenhouse gas emissions is notably elevated among residents who are 18 to 34 years of age, as well as leasers or renters.

Likelihood of Walking, Biking, Taking Public Transit, or Car Sharing for a Majority of Trips to Reduce Greenhouse Gas Emissions



Q.32: How likely or unlikely are you to walk, bike, take public transit, or car share for the majority of your trips to reduce your greenhouse gas emissions? *New question in 2018. *Due to rounding.*



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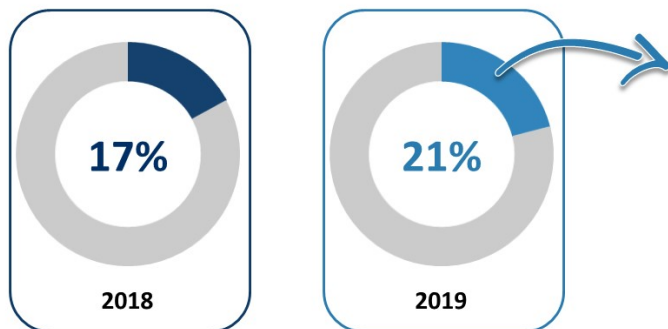
Campaigns

A total of 21 percent of residents recall, unaided, seeing or hearing about climate change programs or advertisements from the City of Edmonton.

No single element was recalled, unaided/unprompted, by a substantial proportion of residents. Rather, a wide variety of topics were identified, with only a small number of residents citing each topic. That said, mentions of solar energy or solar panels, waste reduction or recycling, or obligation to do one’s part for climate change were the most commonly identified. Awareness is more so elevated among residents who are 18 to 34 years of age, as compared to older residents.

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

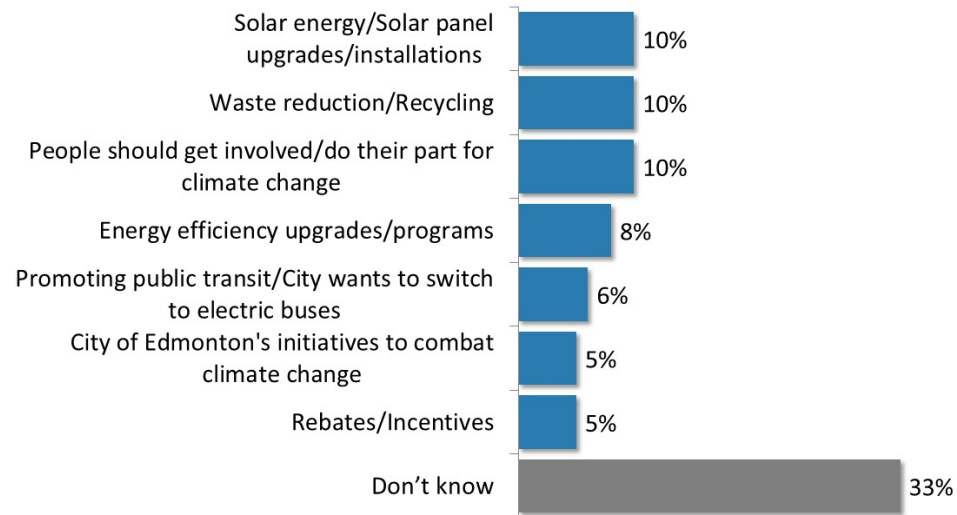
% 'Yes'



Q.33: Do you recall seeing or hearing about any climate change programs or advertisements from the City of Edmonton? 2018: (n=1000) ; 2019: (n=1003)

Information Recalled

Key unaided mentions

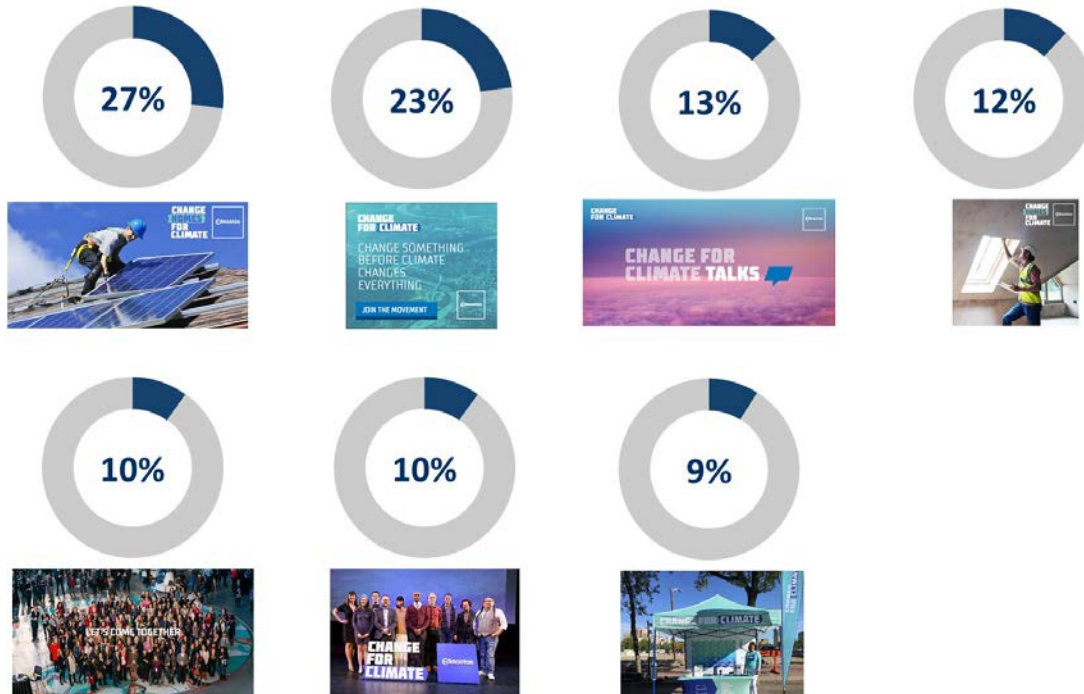


Q.34: [IF 'YES, DO RECALL' IN Q.33] Please describe what you recall seeing or hearing about climate change programs or advertisements from the City of Edmonton? Please be as detailed as possible. (n=204) *New question in 2018.*

When aided or prompted with specific campaign images, 44 percent of residents recall at least one of the seven individual images from the City of Edmonton's Change for Climate campaign. This marks an increase of 15 percentage points over last year's results.

Recall of Images from City of Edmonton's Change for Climate Campaign

% Saying 'Yes'



44%
recall seeing one or more of the seven images from the City of Edmonton's Change for Climate campaign
(vs. 29% in 2018)

Q.35a-g: Which, if any, of the following images related to the City of Edmonton's Change for Climate campaign do you recall seeing? (n=1003) This question was asked in 2018, but tracking is not provided as different campaign images were tested.



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Demographics

The following summarizes the weighted demographic profile of survey respondents.

	(n=1003)
Gender	
Woman/Girl	50%
Man/Boy	49%
Prefer not to answer	1%
Age	
18-24	12%
25-34	23%
35-44	18%
45-54	16%
55-64	15%
65 or older	15%
Highest Level of Education Completed	
Some high school	3%
Completed high school	16%
Some community college/technical college/CEGEP	10%
Completed community college/technical college/CEGEP	23%
Some university	11%
Completed university	22%
Post-graduate degree	13%

	(n=1003)
Household Income in 2018	
Up to \$40,000	19%
\$40,001 - \$60,000	18%
\$60,001 - \$80,000	13%
\$80,001 - \$100,000	12%
\$100,001 - \$150,000	16%
More than \$150,000	10%
Prefer not to answer	12%
Dwelling Type	
Fully detached house	55%
Condo/apartment	27%
Townhouse/row house	9%
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=322)	
Yes	17%
No	65%
Not sure	18%