

NARRATIVE RESEARCH

# **Climate Change and Energy Perceptions Report**

July 2021

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 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 being an online survey in May 2021. The purpose of the current survey is to compare results to previous survey iterations in 2018-2020, 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 behaviours and perceptions regarding climate change and energy efficiency.
- To measure and compare awareness and perceptions regarding City programs such as Change for Climate, the EnerGuide home evaluation and the residential solar program, against the results obtained in previous years.
- To measure the effectiveness of marketing campaign messages and images (which were limited over the past year, owing to considerations arising from COVID-19).



### **Target Audience**

• Residents of the city of Edmonton, 18 years of age or older. The data collection for this study was undertaken during the COVID-19 pandemic period.

## Approach

- Online survey using a general population online panel provided by Dynata (formerly Research Now).
- To meet current needs, changes were made to the 2021 Climate Change and Energy Perceptions Survey from the previous version, including the addition of new questions, deletion of certain questions, and 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 overall margin of error would be +/- 3.1 percentage points, 19 times out of 20, based on this sample size.
- Percentage point changes year-over-year are noted throughout the report. It should be stated that mention of these changes does not imply statistical significance.
- The first iteration of this survey was conducted in 2017.





#### **Important Notes on Reading this Report**

This iteration marks the fifth wave of the climate change and energy report for the City of Edmonton. As such, readers are reminded that the wording of many questions throughout this report have changed to a greater or lesser degree over the years of this tracking research study, 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. For example, only changes made to question statements in 2021 are noted where applicable in the current annual iteration of the research report.

In addition, where a five-point scale ('strong agree' to 'strongly disagree') is shown for multiple statements on the same graph, statements are listed or ordered 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.



#### **Feelings Toward Climate Change**

It is timely to reflect on public attitudinal changes that have occurred since the study's outset five years ago. Specifically, public agreement concerning various aspects of climate concern has increased markedly relative to 2017. Please note, given that this study has been administered via an online survey methodology, it is the case that statistical testing cannot strictly be applied to the research in the absence of probability sampling. Nonetheless, in comparing the results from 2017 to those collected this year, there are substantial differences and commendable improvements with respect to public perceptions and feelings vis-a-vis climate change. Personal feelings concerning various aspects related to climate change have strengthened notably across many measurements since 2017. And while individual level of concern about climate change has remained relatively constant over the last five years, agreement that Edmontonians at large are concerned and taking action on climate change has markedly increased.

In terms of specific metrics, Edmontonians continue to agree (75%) that climate change is a concern, and that there is a need to act now to address this issue (77%), consistent with the 2020 results. A total of 74% of Edmonton residents also agree that climate change is caused mostly by human activities, and 71% say that their individual actions contribute to the global impacts of climate change, both slight increases over 2020. Meanwhile, 72% say that Edmonton residents should be doing more to help prevent climate change, and 70% agree that they want to do more personally to help prevent climate change, consistent with the results observed in 2020. A total of 66% of Edmontonians affirm they are taking action to prevent climate change, on par with last year's result.

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 2020, 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.





#### Feelings Toward Climate Change (continued)

Edmontonians want the City to either increase (47%, up four points) or maintain (23%) its efforts to address climate change. While 22% of residents are unsure how much effort the City should put in, 8% want the City to decrease such efforts. A total of 43% of residents perceive the City of Edmonton is taking the right actions to address climate change, a notable increase compared with 36% in 2020. Substantial proportions of Edmontonians recognize economic and employment opportunities associated with energy efficiency and addressing climate change. Specifically, 71% agree that investing in energy efficiency provides job opportunities for Edmonton, 70% agree that transitioning to renewable sources of energy provides job opportunities for the city, and 66% agree that efforts to prevent climate change present economic opportunity for Edmonton (with the latter two figures up marginally since 2020). There is also widespread knowledge of the impacts of greenhouse gas emissions and various human actions (e.g., transportation choices, home as well as workplace heating/cooling and electricity use, food choices, and so forth) on climate change (with between 60% and 81% agreement, on par with last year).

A total of 74% of Edmontonians think it is important to talk about climate change (compared with 70% last year). While 70% of residents feel comfortable talking about climate change with their family, friends, or colleagues, 42% of residents mentioned regularly doing so, consistent with 2020 results. Additionally, a total of 77% of Edmontonians agree that climate change affects the health and well-being of individuals, an increase relative to 2020. A total of 77% of Edmontonians agree that climate change affects the health and well-being of individuals, an increase relative to 2020. A total of 77% of Edmontonians agree that climate change affects the health and well-being of individuals, an increase relative to 2020. A total of 77% of Edmontonians agree that climate change affects the health and well-being of individuals, and 63% believe human caused climate change is linked to the occurrence of natural disasters. Both these measures have increased slightly compared to 2020. Up marginally compared to 2020, 63% of residents believe human caused climate change is linked to the occurrence of natural disasters. There is also strong agreement with statements posed for the first time this year, where 66% believe climate change is affecting Edmonton's weather in general. When asked, aided, if inclement weather events were risks associated with climate change, while 71% feel the same about increased drought. In last two years, 86% of residents say they have experienced at least one extreme weather event, where the average resident experienced nearly four (3.7). Additionally, almost half of Edmonton residents (46%) are currently adapting their property to better suit the changing climate.



#### **Actions to Reduce Climate Change Impact (continued)**

*Home Energy Efficiency:* The proportion of residents taking action to improve their home energy efficiency is stable compared with 2020, although reports of taking action, unaided, to increase home energy efficiency is down from levels observed three and fours years ago (e.g., 47% in 2021 compared with 61% in 2017). When aided with examples, including switching to LEDs or adjusting thermostats to conserve heat are provided, the proportion of residents who report taking action to increase their home's energy efficiency rises to 87%. Notably, the average person reports having taken approximately four (3.8) actions in the past year. Those who have taken actions to increase home energy efficiency have largely done so by switching to LED lightbulbs (73%), or adjusting their thermostats to conserve heat (60%). A total of 40% are aware of the EnerGuide home evaluation program, consistent with results from the last two years. When renovating their home, 79% agree that having an EnerGuide evaluation done would be useful, while 77% agree this evaluation would be valuable when deciding whether to buy a home.

Other Actions to Reduce Climate Change Impact: When asked, aided, about their participation in a series of specific actions to mitigate climate change, 96% of Edmontonians say they took at least one of the listed actions, where 78% say they used reusables, and 76% say they reduced food waste in the last year. This proportion of residents is notably higher section than those who mentioned, unaided, taking actions to reduce impact on climate change in the past year (46%).

#### **Solar Energy and Energy Efficiency**

Results for various measures in this domain have increased marginally since 2020 with 75% of Edmontonians agreeing that having solar panels installed in their homes decreases their homes' impact on climate change. A total of 27% of Edmontonians are aware of a program that helps homeowners install solar panels on their home to generate electricity, consistent with 2020 results. However, only five percent of Edmonton residents currently have solar panels installed on their home. Edmontonians do appear open to solar panels, as 20% (up five percentage points since 2020) of Edmonton home-owners are likely to either install solar panels for the first time, or add additional panels in the next three years. Edmontonians also place considerable importance in the energy efficiency of the buildings in which they work, study, play, or shop, as 75% (up seven points) of residents indicate that energy efficiency is important for such buildings.



#### **Electric Vehicles**

One-quarter of Edmonton residents are extremely or very familiar with electric vehicles while 28% describe themselves as unfamiliar. A decreased number of residents (48%, down 13% from 2020) indicated they have no experience with electric vehicles, although it should be noted additional aided response options were added this year. A total of 21% of residents plan to buy an electric vehicle for their next vehicle purchase. Residents frequently cite savings on fuel and maintenance as factor motivating them to purchase an electric vehicle (49%), and the price of electric vehicles as key factor in preventing them from buying (60%).

While price remains the largest barrier, it should be noted that a smaller portion of residents perceive it as a barrier relative to 2020 (down 5%), while a greater portion perceive access (52%, up 14%) and distance (42%, up 7%) to EV charging stations as a growing concern. In fact, total of 48% of Edmonton residents are aware of public charging stations for electric vehicles in Edmonton, down eight percentage points from 2020 results.

#### **Electric Bicycles**

Edmonton

Up marginally from 2020, 13% of Edmontonians are likely to purchase an electric bicycle in the next three years, while (40%) are not likely to purchase. Two percent of Edmonton residents say they already own an electric bicycle.

#### **Transportation Choices & Climate Change Impact**

As in 2020, it is important to interpret transportation data in the context of the pandemic, given that a large portion of residents continue to work from home throughout 2021. Driving a motor vehicle was most frequently mentioned by Edmontonians as a means of transportation used in the past 30 days, followed by walking, and being a passenger on private transportation, consistent with the preceding year. The proportion who use public transportation has increased slightly compared to 2020 but remains low relative to pre-pandemic levels. A total of 31% say they are likely to walk, bike, take public transit or car share for the majority of their trips to reduce their impact on climate change, while 10% mentioned that they already do these types of activities, marking a decrease of four points from 2020 results.



#### Campaigns

A total of of 23% of residents recall, unaided, seeing or hearing about climate change programs or advertisements from the City, an increase of six percentage points relative to 2020. It should be noted that the City launched a waste collection advertising campaign in the past year, and one in five of residents who remember a recent City of Edmonton ad about climate change programs or advertisements, recall that it touched upon 'waste/recycling' as a theme. When prompted or aided with specific campaign images, 36% of Edmontonians recall at least one of the six specific images from the *Change for Climate* campaign. Residents who recalled, unaided, seeing or hearing about climate change programs or advertisements are generally more likely to agree with statements regarding impact on climate change, and taking action to prevent climate change, perceptions that fellow Edmontonians do the same.

#### Synopsis

Overall, the survey results are generally consistent with those observed in 2020 with respect to climate change perceptions, although certain improved trends are evident. For example, small gains have been made in the agreement on the association between climate change and the occurrence of natural disasters, and there has been a gradual but sustained increase over the past three years in the proportion agreeing that their individual actions have an impact on climate change.

Another noteworthy survey finding is that in many instances younger Edmontonians as well as women tend to be more concerned about climate change and want to see more action, as compared to their older and male counterparts. At the same time, there seems to be downward movement on selected measures. For example, there is a gradual decline in awareness of charging stations for electric vehicles. Additionally, awareness of the EnerGuide program has plateaued.



#### Synopsis (continued)

Fortunately, the effects of COVID-19 do not appear to have adversely affected attitudes of Edmontonians towards climate change to any measurable extent. Agreement that efforts to prevent climate change presents an economic opportunity for Edmonton has shifted modestly upward over the past year, suggesting an opportunity to leverage this public disposition in future dialogue with the business community. Other opportunities include encouraging dialogue on climate change. There is an opportunity to, among other things, increase the use of environmentally friendly transportation choices to reduce impact upon climate change, particularly given the increased interest in buying an electric vehicle.

Increasing awareness of public charging stations is therefore a key opportunity to help motivate use of electric vehicles. As well, another opportunity would be to further increase awareness of the EnerGuide program. Solar panels and electric bicycles currently also have opportunities for greater incidence among Edmonton's population as well. Moreover, there is a modest opportunity to educate Edmontonians concerning actions that the City is undertaking. Finally, there is an opportunity to educate (particularly younger) Edmontonians on how to make homes more energy efficient.



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# Feelings Towards Climate Change





# Concern About Climate Change

A total of 75 percent of Edmonton residents are concerned about climate change, including 40 percent who strongly agree they are concerned. These results are consistent with those observed in 2020.

Concern is elevated among younger Edmonton residents as compared to older residents. In particular, over one-half of residents age 18-34 strongly agree they are concerned about climate change, while one-third of those aged 35 and older strongly agree that they are concerned.

## 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*.



A total of 77 percent of Edmonton residents believe immediate action is required to address climate change, consistent with the previous year's results.

Younger residents are <u>more</u> likely than older residents to perceive an immediate need for action on climate change. Also, women are <u>more</u> 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? \**Due to rounding*.



# Human Action and Climate Change

A total of 74 percent of Edmontonians believe climate change is caused mostly by human activities, while 71 percent believe their individual actions contribute to the global impacts of climate change. Results are three points and fours points, respectively, above those from a year ago.

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

Agreement that individual actions contribute to the global impacts of climate change is also elevated among younger Edmontonians, and to a lesser extent among female residents compared to their male counterparts.

## **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? \**Due to rounding*.



# Desire to Do More to Prevent Climate Change

A total of 72 percent of Edmontonians believe residents of the city should be doing more to prevent climate change, while 70 percent want to do more personally to prevent climate change. Agreement is consistent, in both instances, with observed levels from 2020, but represents a positive trend since 2017.

Younger residents are more inclined than older residents to think that Edmontonians should be doing more to help prevent climate change. Residents with a moderate household income are also more likely than their respective counterparts to believe Edmontonians should be doing more.

The sentiment to do more personally to help prevent climate change is elevated among younger residents compared to older residents, and among Edmontonians with a moderate household income. Females are also slightly more inclined than males to agree with this statement.

## **Extent Agree with Statement About Climate Change**



| Strongly agree             | Somewhat agree    |           |
|----------------------------|-------------------|-----------|
| Neither agree nor disagree | Somewhat disagree |           |
| Strongly disagree          | Not sure          | Agree     |
| _                          |                   | $\bigcap$ |

|   | 2021 (n=1,005) | 37%   | 34% | 16% | <mark>5%6%</mark> 2%   | 72%~ |
|---|----------------|---|-----|-----|------------------------|------|
| I think Edmontonians                            | 2020 (n=1,001) | 36%   | 34% | 16% | 8% <mark>5%2</mark> %  | 70%  |
| should be doing more<br>to help address climate | 2019 (n=1,003) | 35%   | 35% | 17% | <mark>6%6%1</mark> %   | 70%  |
| change*   | 2018 (n=1,000) | 30%   | 35% | 23% | <mark>6%4%</mark> 2%   | 65%  |
|   | 2017 (n=506)   | 25%   | 35% | 25% | <mark>7%6%2</mark> %   | 60%  |
|   | _              |   |     |     |                        |      |
|   | 2021 (n=1,005) | 35%   | 35% | 18% | <mark>6%5%</mark> 1%   | 70%  |
| I want to do more                               | 2020 (n=1,001) | 019 (n=1,003) 35%   018 (n=1,000) 30%   2017 (n=506) 25%   021 (n=1,005) <b>35%</b> 020 (n=1,001) 32%   019 (n=1,003) 34%   018 (n=1,000) 27% | 37% | 18% | <mark>8%4%</mark> 2%   | 69%  |
| personally to help                              | 2019 (n=1,003) | 34%   | 35% | 19% | <mark>6%5%</mark> 1%   | 69%  |
| address climate<br>change*                      | 2018 (n=1,000) | 27%   | 38% | 24% | <mark>6%4%</mark> 1%   | 65%  |
|   | 2017 (n=506)   | 26%   | 34% | 22% | 9% 7% <mark>2</mark> % | 60%  |

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? \**Note: Slight change in wording in 2021, changed from "prevent" to "address".* "*Due to rounding.*"



# Action to Prevent Climate Change

#### A total of 66 percent of Edmonton residents are taking actions to help prevent climate change. This result is consistent with that of 2020.

Younger residents are modestly more inclined than older residents to confirm they are taking action to help prevent climate change.

Residents who recalled messaging from the City, unaided and/or aided, were more likely to agree that they are taking action to address climate change, as compared to their counterparts.

### I am Taking Action to Help Address Climate Change~

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



Q.1g: The next few statements are about how you <u>personally</u> 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". "Due to rounding.* 



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. While there is a modest increase in perceived agreement among Edmontonians relative to 2020, the gap between measures remains generally stable.

In general, younger residents, and those who recalled communication from the City on climate change (both aided and unaided) are <u>more</u> likely than their counterparts to believe that Edmontonians as a whole hold progressive perceptions regarding matters concerning climate change.

Those with annual household incomes greater than \$100K are <u>less</u> likely than those with lower household incomes to believe Edmontonians have progressive attitudes on climate change.

## **Opinions on Climate Change**

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

|   | Perce           | ived Agree        | ment Amor         | ng Edmonto        | nians             |                   | (% Persona        | <b>GAP*</b><br>ally - % Edm | ontonians)        |                   |
|---|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------------------|-------------------|-------------------|
|   | 2017<br>(n=506) | 2018<br>(n=1,000) | 2019<br>(n=1,003) | 2020<br>(n=1,001) | 2021<br>(n=1,005) | 2017<br>(n=506)   | 2018<br>(n=1,000) | 2019<br>(n=1,003)           | 2020<br>(n=1,001) | 2021<br>(n=1,005) |
| Concerned about climate change  | 39%             | 47%               | 47%               | 47%               | 52%               | 34%               | 25%               | 27%                         | 27%               | 23%               |
| Need to act now to address climate change                                     | 41%             | 48%               | 50%               | 49%               | 52%               | 31%               | 25%               | 25%                         | 26%               | 25%               |
| Climate change is caused mostly by human activities                           | 48%             | 54%               | 52%               | 55%               | 59%               | 20%               | 14%               | 17%                         | 16%               | 15%               |
| Individual actions contribute to the global impacts of climate change         | 37%             | 44%               | 43%               | 44%               | 48%               | 24%               | 19%               | 21%                         | 23%               | 23%               |
| Edmonton residents should be<br>doing more to help address climate<br>change~ | 36%             | 47%               | 47%               | 47%               | 51%               | 24%               | 18%               | 23%                         | 23%               | 21%               |
| Want to do more personally to<br>help address climate change~                 | 35%             | 44%               | 44%               | 43%               | 46%               | 25%               | 21%               | 25%                         | 26%               | 24%               |
| Taking action to address climate change~                                      | 25%             | 34%               | 32%               | 32%               | 36%               | <mark>30</mark> % | 28%               | 31%                         | 34%               | 30%               |

Q.2a-g: The next few statements are about how you think <u>Edmontonians</u> 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. "*Note: Slight change in wording in 2021, changed from "prevent" to "address"*.



Edmontonians clearly want the City to either increase or maintain its efforts to address climate change. That said, more than two in ten residents remain uncertain on whether the City needs to change its effort, and fewer agree it should decrease its efforts.

Agreement regarding increasing efforts to address climate change has increased four percentage points relative to 2020, while the proportion recommending the City maintain its efforts has stayed consistent.

Opinion that the City of Edmonton should increase its efforts to address climate change declines with age. Additionally, uncertainty around whether the City should adjust its efforts is more common among women than men. Residents who recall, aided and unaided, climate change communication from the City are more likely than their counterparts to say that the City should increase its efforts.

## 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?



This year, 43 percent of residents, a notable increase compared to 2020, perceive that the City of Edmonton is taking the right actions to address climate change.

Agreement in this regard decreases with the age of residents. Agreement is also higher among residents who recall, aided and unaided, communication from the City on the topic of climate change.

## 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?



# **Economic and Employment Impacts**

Between 66 percent and 71 percent of Edmontonians recognize economic and employment opportunities associated with energy efficiency and addressing climate change, up marginally compared with previous years.

Agreement that efforts to prevent climate change present an economic opportunity for Edmonton has shifted two points upward. Further, agreement that efforts to transition to renewable sources of energy provide job opportunities for Edmonton increased by three points since 2020.

The perception that investment in energy efficiency provides Edmontonians with job opportunities remains consistent with last year.

In all three instances, agreement levels are highest among younger residents (aged 18 to 34 years), and decrease with age.

## **Economic and Employment Impacts**

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

|   | 2021 (n=1,005) | 35% | 36% | 71%  |  |  |  |  |
|---|----------------|-----|-----|------|--|--|--|--|
| Investing in energy efficiency                      | 2020 (n=1,001) | 35% | 36% | 71%  |  |  |  |  |
| provides job opportunities                          | 2019 (n=1,003) | 30% | 38% | 68%  |  |  |  |  |
| for Edmonton  | 2018 (n=1,000) | 28% | 40% | 69%* |  |  |  |  |
|   | 2017 (n=506)   | n/a |     |      |  |  |  |  |
|   |                |     |     |      |  |  |  |  |
|   | 2021 (n=1,005) | 35% | 35% | 70%  |  |  |  |  |
| Transitioning to renewable                          | 2020 (n=1,001) | 35% | 33% | 67%* |  |  |  |  |
| sources of energy provides<br>job opportunities for | 2019 (n=1,003) | 29% | 38% | 68%* |  |  |  |  |
| Edmonton  | 2018 (n=1,000) | 27% | 40% | 66%* |  |  |  |  |
|   | 2017 (n=506)   | n/a |     |      |  |  |  |  |
|   |                |     |     |      |  |  |  |  |
|   | 2021 (n=1,005) | 28% | 38% | 66%  |  |  |  |  |
| Efforts to prevent climate                          | 2020 (n=1,001) | 29% | 35% | 64%  |  |  |  |  |
| change present an economic                          | 2019 (n=1,003) | 24% | 36% | 60%  |  |  |  |  |
| opportunity for Edmonton                            | 2018 (n=1,000) | 25% | 37% | 62%  |  |  |  |  |
|   | 2017 (n=506)   | 28% | 38% | 66%  |  |  |  |  |

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.



# Impact on Climate Change

Knowledge remains generally widespread regarding the belief that greenhouse gas emissions contribute to climate change and three-quarters of Edmontonians (up four points) agree that having solar panels installed in their homes decreases the impact their homes have on climate change. Meanwhile, two-thirds agree their consumption choices have an impact on climate change, and 60 percent believe their food choices have an impact, consistent with last year's results.

Agreement that greenhouse gas emissions contribute to climate change is highest among residents 18-34 years of age. For the remaining three measures, level of agreement decreases with age. Agreement that consumption and food choices have an impact on climate change is also elevated among women. Additionally, residents who have completed a post secondary education program are more likely than their counterparts to agree that consumption choices impact climate change.

#### Impact of Actions on Climate Change

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

| )                            | 2021 (n=1,005) | 47% |                       | 34% |     |  |
|------------------------------|----------------|-----|-----------------------|-----|-----|--|
| Greenhouse gas emissions     | 2020 (n=1,001) | 48% |                       | 31% |     |  |
| contribute to climate change | 2019 (n=1,003) | 43% |                       | 35% | 78% |  |
|                              | 2018 (n=1,000) | 42% | and the second second | 35% | 77% |  |
|                              | 2017 (n=506)   | 48% |                       | 28% | 76% |  |
|                              | 2021 (n=1,005) | 35% | 4                     | 1%  | 75% |  |
| Having solar panels on your  | 2020 (n=1,001) | 32% | 399                   | 6   | 71% |  |
| home reduces your home's     | 2019 (n=1,003) | 30% | 439                   | 6   | 73% |  |
| impact on climate change~    | 2018           | n/a |                       |     |     |  |
|                              | 2017           | n/a |                       |     |     |  |
|                              | 2021 (n=1,005) | 27% | 40%                   | 67  | %   |  |
| My consumption choices       | 2020 (n=1,001) | 28% | 38%                   | 66  | %*  |  |
| such as clothing, toys, and  | 2019 (n=1,003) | 24% | 36%                   | 60% |     |  |
| electronics have an impact   | 2018           | n/a | 1250                  |     |     |  |
| on climate change            | 2017           | n/a |                       |     |     |  |
|                              | 2021 (n=1,005) | 24% | 36%                   | 60% |     |  |
| 2 22 2 2                     | 2020 (n=1,001) | 26% | 36%                   | 61% | •   |  |
| My food choices have an      | 2019 (n=1,003) | 20% | 36%                   | 56% |     |  |
| impact on climate change     | 2018           | n/a |                       |     |     |  |
|                              | 2017           | n/a |                       |     |     |  |

Strongly agree Somewhat agree

Q.4e, k, l, o: To what extent do you agree or disagree with the following statements about climate change? "Due to rounding. " Change in wording in 2021, previously: "Having solar panels on your home decreases your home's impact on climate change."

# Impact on Climate Change

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Seventy-seven percent of residents agree that walking, cycling or taking public transit instead of driving a car can reduce impact on climate change, while three-quarters agree more broadly that their transportation choices have an impact on climate change. Meanwhile, two-thirds of residents (66%, up four points) agree driving electric vehicles reduces the impact on climate change.

With respect to all three statements about transportation, agreement declines with age. Women are also more likely than men to agree that walking, cycling or taking public transit reduce climate change impact, and that their transportation choices in general have an impact on climate change.

Notably, those who lease or rent their homes are more inclined than homeowners to believe that driving electric vehicles lowers climate change impact.

## Impact of Actions on Climate Change

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

Strongly agree Somewhat agree

| Walking, cycling or taking                                  | 2021 (n=1,005) | 41% | 36% | 5 77% |
|---|----------------|-----|-----|-------|
| public transit instead of                                   | 2020           | n/a |     |       |
| driving a car reduces the                                   | 2019           | n/a |     |       |
| impact on climate change0                                   | 2018           | n/a |     |       |
|   | 2017           | n/a |     |       |
|   | 2021 (n=1,005) | 37% | 38% | 75%   |
| My transportation choices                                   | 2020 (n=1,001) | 38% | 36% | 74%   |
| have an impact on climate                                   | 2019 (n=1,003) | 34% | 37% | 70%*  |
| change  | 2018 (n=1,000) | 33% | 40% | 73%   |
|   | 2017 (n=506)   | 43% | 359 | 6 78  |
|   | 2021 (n=1,005) | 30% | 36% | 66%   |
| Driving electric vehicles<br>instead of gas/diesel vehicles | 2020 (n=1,001) | 27% | 35% | 62%   |
| reduces the impact on                                       | 2019 (n=1,003) | 26% | 39% | 65%   |
| climate change‡   | 2018           | n/a |     |       |
|   | 2017           | n/a |     |       |

Q.4g, h, 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 2021, previously: "Driving electric vehicles instead of combustion vehicles reduces the impact on climate change."



Three-quarters of residents agree that workplace heating/cooling and electricity use contributes to climate change. Meanwhile, seventy-two percent agree that home heating/cooling has an impact on climate change and the same percentage (up 2 points) think that their home energy use makes a climate change contribution.

Agreement is highest among younger residents (age 18-34 years) with respect to all three statements. Younger residents are also more likely to indicate that they 'strongly agree' with these statements compared to their older counterparts.

## **Impact of Actions on Climate Change**

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



Strongly agree Somewhat agree

Q.4k, I, o: To what extent do you agree or disagree with the following statements about climate change? \*Due to rounding. ~ Change in wording in 2021, previously: "Having solar panels on your home decreases your home's impact on climate change."



# Impact of Climate Change

A total of 77 percent of Edmontonians agree that climate change impacts the health and well-being of individuals, consistent with 2020. A less robust, albeit growing, proportion believe that human caused climate change is linked to the occurrence of natural disasters (63 percent, up three points), while two-thirds agree that climate change is affecting Edmonton's weather.

For all three measures, the level of agreement decreases with age. In other words, younger residents are more inclined to agree with each of the statements compared to their older counterparts. Edmontonians who have completed post-secondary education are also generally more inclined than their respective counterparts to agree that human caused climate change is linked to natural disasters.

Additionally, women are more likely than men to believe that climate impacts the health and wellbeing of individuals, and that it affects Edmonton's weather.

## 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. ~New statement in 2021.



# Taking Action on Climate Change

A total of 74 percent of Edmontonians think it is important to talk about climate change, up four percentage points since 2020. Similar to last year, while 70 percent of residents feel comfortable discussing climate change with their family, friends, or colleagues, only 42 percent mentioned regularly talking about it.

Agreement on all three measures declines with age. That is, residents age 18-34 are most inclined to agree with the statements, followed by those age 35-54, and those 55 or over.

Agreement is also higher among those who recall seeing or hearing from the City about climate change programs and initiatives.

| 0               |   |   | change   | scale  |  |  |  |  |  |  |  |
|-----------------|---|---|--|--|--|--|--|--|--|--|--|
| ree             | Somewhat agree  |   |  |  |  |  |  |  |  |  |  |
| ee nor disagree | Somewhat disagree   |   |  |  |  |  |  |  |  |  |  |
| sagree          | =   | Not sure  |  |  |  | Agre   |  |  |  |  |  |
| 2021 (n=1,005)  |   | 41%   | 33%  | 33% <b>17%4%4%1</b> '  |  |  |  |  |  |  |  |
| 2020 (n=1,001)  |   | 40%   | 31%  | 18%  | <mark>6%3%2</mark> %   | 70%*   |  |  |  |  |  |
| 2019 (n=1,003)  |   | 40%   | 33%  | 18%  | 73%  |  |  |  |  |  |  |
|                 |   |   |  |  |  |  |  |  |  |  |  |
| 2021 (n=1,005)  | 32  | 2%  | 38%  | 19% 7%3 <mark>%</mark> 1%  |  | 70%  |  |  |  |  |  |
| 2020 (n=1,001)  | 32  | 2%  | 37%  | 19%  | <mark>7%3%</mark> 1%   | 69%  |  |  |  |  |  |
| 2019 (n=1,003)  | 30  | %   | 39%  | 22%  | <mark>6%3%</mark> 1%   | 69%  |  |  |  |  |  |
|                 |   |   |  |  |  |  |  |  |  |  |  |
| 2021 (n=1,005)  | 13%   | 29%   | 25%  | <b>19%</b>   | 13%  | 42%  |  |  |  |  |  |
| 2020 (n=1,001)  | 12%   | 30%   | 26%  | 19%  | 12%1%  | 42%  |  |  |  |  |  |
| 2019 (n=1,003)  | 12%   | 33%   | 26%  | 16%  | 12%1%  | 45%  |  |  |  |  |  |
|                 | ee (strongly/somev<br>ree<br>sagree<br>2021 (n=1,005)<br>2020 (n=1,001)<br>2019 (n=1,003)<br>2020 (n=1,001)<br>2019 (n=1,003)<br>2021 (n=1,003)<br>2021 (n=1,005)<br>2020 (n=1,001) | ee (strongly/somewhat agr   ree 9   ree nor disagree 9   sagree 9   2021 (n=1,005) 9   2020 (n=1,001) 9   2021 (n=1,005) 32   2020 (n=1,001) 32   2020 (n=1,001) 32   2019 (n=1,003) 30   2021 (n=1,005) 13%   2020 (n=1,001) 12% | ee (strongly/somewhat agree), on 5-   ree Somewhat   ree nor disagree Somewhat   sagree Not sure   2021 (n=1,005) 41%   2020 (n=1,001) 40%   2021 (n=1,005) 32%   2020 (n=1,001) 32%   2020 (n=1,001) 32%   2019 (n=1,003) 30%   2021 (n=1,005) 13%   2020 (n=1,001) 30% | ee (strongly/somewhat agree), on 5-pt. agreement   ree Somewhat agree   sagree Somewhat disagree   2021 (n=1,005) 41% 33%   2020 (n=1,001) 40% 31%   2019 (n=1,003) 40% 33%   2020 (n=1,001) 32% 38%   2020 (n=1,001) 32% 37%   2019 (n=1,003) 30% 39%   2021 (n=1,005) 13% 29% 25%   2020 (n=1,001) 12% 30% 26% | ee (strongly/somewhat agree), on 5-pt. agreement scale   ree Somewhat agree   sagree Somewhat disagree   2021 (n=1,005) 41% 33% 179   2020 (n=1,001) 40% 31% 18%   2019 (n=1,003) 40% 33% 18%   2021 (n=1,005) 32% 38% 19%   2020 (n=1,001) 32% 37% 19%   2020 (n=1,001) 32% 37% 19%   2021 (n=1,005) 13% 29% 25% 19%   2021 (n=1,005) 12% 30% 26% 19% | ee (strongly/somewhat agree), on 5-pt. agreement scale   ree Somewhat agree   sagree Somewhat disagree   2021 (n=1,005) 41% 33% 17%4%4%1%   2020 (n=1,001) 40% 31% 18% 6%3%2%   2019 (n=1,003) 40% 33% 18% 4%4%1%   2021 (n=1,005) 32% 38% 19% 7%3%1%   2020 (n=1,001) 32% 37% 19% 7%3%1%   2020 (n=1,001) 30% 39% 22% 6%3%1%   2021 (n=1,005) 13% 29% 25% 19% 13%   2021 (n=1,005) 13% 29% 25% 19% 12% 1% |  |  |  |  |  |

Q.5a-c: To what extent do you agree or disagree with the following statements about climate change? \*Due to rounding.



# Impact of Climate Change on Weather Events

The majority of Edmontonians 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 arises from climate change, while about seven in ten believe increased drought and increased flooding are risks associated with climate change.

Nearly seven in ten Edmontonians agree that increased wildfire smoke arises from a changing climate, while 66 percent and 64 percent of residents respectively think extreme rainfall events and high winds are associated risks. Around six in ten residents agree that extreme cold and increased hail are impacted by climate change, and a similar percentage think freezing rain is a related threat.

For all risks, agreement decreases with age. In general, agreement is also higher among women than men.

83% Agree that at least one of the weather events are risks arising from a changing climate

#### a Changing Climate % agree (strongly/somewhat agree), on 5-pt. agreement scale ■ Strongly agree Somewhat agree Neither agree nor disagree Somewhat disagree Strongly disagree Not sure Agree Extreme heat/Heatwave 35% 13%4%5%4% 75% 40% Increased drought 15% 6%4%5% 38% 33% 71% Increased wildfire smoke 15% 7% 5% 4% 38% 31% 69% Increased flooding 15% 5%5%5% 70%\* 36% 33% Extreme rainfall events 18% 6%5%5% 33% 33% 66% 19% 8% 7% 6% Extreme cold 31% 30% 61% Increased high winds **19% 6%5%7%** 29% 35% 64% Increased hail 22% 7%5%7% 28% 30% 58% Increased freezing rain 7%6%7% 26% 30% 23% 56%

Q.6a-i: To what extent do you agree or disagree that the following are risks arising from a changing climate? (n=1,005) *Note: New question in 2021. \*Due to rounding.* 

## Extent Agree that Weather Events are Risks Arising from



# Impact of Climate Change on Weather Events

Eighty-six percent of Edmontonians have experienced at least one extreme weather event in the past two years. Notably, a solid majority of residents say they have experienced increased wildfire smoke, increased high winds, or extreme cold.

Just over four in ten residents report experiencing extreme heat events, and a similar percentage report extreme rainfall events in the last two years. Approximately one-third of Edmontonians noted an increased frequency in freezing rain, while 28 percent reported experiencing increased hail and increased drought. Fewer than two in ten reported increased flooding in the last two years.

In general, women are more likely than men to report experiencing some form of inclement weather in the past two years.



Q.7a-i: Have you experienced any of these weather events in Edmonton in the past 2 years? (n=1,005) *Note: New question in 2021.* 



# Taking Action to Adapt to Climate Change

Forty-six percentage of Edmonton residents agree that they are taking action, from the perspective of protecting their property, to adapt to a changing climate. One-quarter of residents neither agree nor disagree that they are taking action, while a similar percentage disagrees with this notion.

Residents who own their home are more likely than those who lease or rent to agree that they are taking action to adapt to a changing climate. Additionally, those who dwell in a fully or semi detached home or townhome are more likely their counterparts to be taking action.

## I am Taking Action to Adapt to a Changing Climate

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



Q.7k: To what extent do you agree or disagree with the following statement: I am taking action to adapt to a changing climate (for example, flood proofing my property, securing loose shingles from winds, having an emergency preparedness plan, etc.). (n=1,005) *New question in 2021*.



NARRATIVE RESEARCH

# Home Energy Efficiency





A total of 47 percent of Edmontonians indicate they have taken actions to increase energy efficiency in their homes in the past year. This result is consistent with the preceding year, but the metric has been in gradual decline since 2017.



Likelihood to act increases with household income, whereby those with higher incomes were most likely to have taken actions to increase energy efficiency in their homes.

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

Homeowners are more likely than residents who lease or rent their homes to have taken action to increase home energy efficiency in the past year. Additionally, residents in fully/semi detached or townhouse dwellings are more likely to have acted in the past year than their counterparts in condos/apartments.

#### 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 Townhouse |                 |                 |                 |                 |                 | Condo/Apartment |                 |                 |                 |                 |                 |
|       | 2017<br>(n=369) | 2018<br>(n=732) | 2019<br>(n=681) | 2020<br>(n=678) | 2021<br>(n=673) | 2017<br>(n=129) | 2018<br>(n=268) | 2019<br>(n=322) | 2020<br>(n=323)                  | 2021<br>(n=332) | 2017<br>(n=375) | 2018<br>(n=741) | 2019<br>(n=717) | 2020<br>(n=725) | 2021<br>(n=726) | 2017<br>(n=110) | 2018<br>(n=242) | 2019<br>(n=266) | 2020<br>(n=256) | 2021<br>(n=251) |
| % Yes | 62%             | 62%             | 56%             | 51%             | 51%             | 56%             | 42%             | 39%             | 40%                              | 40%             | 63%             | 59%             | 55%             | 51%             | 51%             | 52%             | 47%             | 37%             | 37%             | 38%             |

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



When provided aided examples, a strong majority (87 percent) of Edmontonians indicate they have taken actions in their home in the past year to minimize their impact on climate change. On average, residents took nearly four (3.8) actions in their home in the past year.

Nearly three-quarters of residents have switched to LED light bulbs in the past year, while six in ten have set their thermostat to conserve heat. Approximately three in ten of those who took action reported purchasing the most efficient washer and dryer, installing energy efficient windows, installing a high-efficiency furnace, and weather proofing their homes by caulking or weatherstripping windows and doors.

Other actions such as insulating basements or walls, upgrading to an induction top stove, and installing a drain water heat recovery unit or tankless water heater are notably more common among younger Edmontonians (18-34) than their older counterparts.

In general, homeowners are more likely than residents who lease or rent their homes to undertake the listed actions to increase energy efficiency in the home, as are those in fully/semi detached dwellings or townhomes compared to those in condos/apartments. Those who have seen or heard information from the City about climate change programs are also more likely to report taking the listed actions.



Q.9a-o: Which of the following actions have you taken in your home in the past year? Select all that apply. (n=1,005) *Note: New question in 2021.* 



Other than increasing the energy efficiency of their homes, 46 percent of Edmontonians have taken actions to reduce their impact on climate change in the past year.

The likelihood of having taken actions, not including homes efficiency upgrades, to reduce impact on climate change in the past year <u>decreases</u> with age. That is, younger residents are more likely than older residents to haven taken actions. Women are also more likely than men to have taken actions to reduce their impact on climate change in the last year.

Residents who lease or rent are marginally more likely than residents who own their home to have taken other actions to reduce impact on climate change in the past year. Actions taken are relatively stable across various dwelling types.

**Taken Actions to Reduce Impact on Climate Change** 



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.

# 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

Actions Taken in Past Year

An exceptional 96 percent of Edmontonians have taken one or more of the stated actions in the past year to reduce their impact on climate change. Seventy-eight percent have used reusables in the past year while 76 percent have reduced food waste.

A strong majority of Edmontonians have washed their clothes in cold water, avoided idling in their cars, and reduced consumerism by buying fewer products.

Most residents have also worked and played close to home, learned online, and bought sustainably. For these actions, as well as less common actions (less than 50% participation), likelihood of engaging with each action decreases with age.

Residents who recall communication from the City about climate change initiatives are more like to report partaking in the listed actions, as compared to their counterparts.



Q.11a-n: Which of the following actions have you taken in the past year? Select all that apply. (n=1,005) *Note: New question in 2021.* 



Forty percent of Edmontonians indicate awareness of the City's EnerGuide home evaluation program, consistent with results from the past two years.



Awareness of the EnerGuide program increases moderately with both age and household income.

Awareness is also elevated among homeowners relative to those who lease or rent their homes.

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?

### Aware of EnerGuide Program

By home ownership and dwelling type

% Yes

| ·     |                 | Home Ownership  |                 |                 |                 |                 |                 |                 |     |                                  |                 | Dwelling Type   |                 |                 |                 |                 |                 |                 |                 |                 |
|-------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----|----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|       | Own             |                 |                 |                 |                 | Rent/Lease      |                 |                 |     | Fully/Semi Detached or Townhouse |                 |                 |                 |                 | Condo/Apartment |                 |                 |                 |                 |                 |
|       | 2017<br>(n=369) | 2018<br>(n=732) | 2019<br>(n=681) | 2020<br>(n=678) | 2021<br>(n=673) | 2017<br>(n=129) | 2018<br>(n=268) | 2019<br>(n=322) |     | 2021<br>(n=332)                  | 2017<br>(n=375) | 2018<br>(n=741) | 2019<br>(n=717) | 2020<br>(n=725) | 2021<br>(n=726) | 2017<br>(n=110) | 2018<br>(n=242) | 2019<br>(n=266) | 2020<br>(n=256) | 2021<br>(n=251) |
| % Yes | 34%             | 37%             | 44%             | 42%             | 45%             | 33%             | 27%             | 31%             | 34% | 31%                              | 35%             | 35%             | 42%             | 41%             | 42%             | 28%             | 32%             | 36%             | 39%             | 37%             |

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?



# **Opinions on EnerGuide Program**

On par with last year, about eight in ten Edmontonians agree having an EnerGuide evaluation with recommendations on how to make the home more energy efficient would be valuable when renovating. Meanwhile, 77 percent agree that when buying a home, they would like to see the results of the EnerGuide evaluation of that home compared to others.

Agreement on the desire to see the EnerGuide evaluation on a home before buying is elevated among younger residents (18-34 years old) compared to older residents. Residents in all age categories are equally likely to agree that there is value in having an EnerGuide evaluation on how to make the home more energy efficient when renovating.

Residents who recall hearing or seeing information about climate change programs from the City are more likely to see the value of the EnerGuide evaluation in both stated scenarios.

## **Opinions on EnerGuide Evaluation**

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

Somewhat agree



Strongly agree

Q.15b-c: To what extent do you agree or disagree with the following statements about energy efficiency? \*Due to rounding.



NARRATIVE RESEARCH



# Solar Energy and Energy Efficiency




Edmonto

Twenty-seven percent of Edmontonians are aware of a program that helps homeowners install solar panels on their home, consistent with results from preceding years.



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?



### Solar Panels Currently Installed on Home

The vast majority of Edmontonians do <u>not</u> have solar panels installed on their homes. Five percent residents currently have solar panels on their home, consistent with results from the last two years.

Younger residents (age 18-34) are much more likely than older residents to already have solar panels installed on their home. Men are also more likely than women to have solar panels installed on their home.



**Currently Have Solar Panels Installed on Home** 

Q.20: Do you currently have solar panels installed on your home?



In the next three years, 20 percent of Edmonton home-owners are likely to install additional or first-time solar panels on their homes, up five points from 2020.

The likelihood of installing solar panels decreases with the age of residents, and is higher among men than women.

Edmontonians residing in a semi, duplex, town or rowhouse are more likely than their counterparts in detached homes or condominiums to intend to install solar panels in the next three years.



### Likelihood of Installing Solar Panels on Home in Next 3 Years

Among those who own their primary residence

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?



### 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 75 percent of residents indicate that energy efficiency is important for such buildings, up seven points since 2020.

Importance of energy efficient buildings is elevated among younger residents, age 18-34. Women are also more likely to place importance on the energy efficiency of the buildings they utilize.

Residents who recall, aided and unaided, seeing or hearing messaging about climate change programs from the City are more likely to say energy efficiency in the buildings they use is important.

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

■ 2018 (n=1,000) ■ 2019 (n=1,003) ■ 2020 (n=1,001) ■ 2021 (n=1,005)



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









### Familiarity with Electric Vehicles

One-quarter of Edmonton residents are familiar with electric vehicles, while 28 percent describe themselves as unfamiliar. The remainder of Edmontonians mention self-report as being somewhat familiar with electric vehicles.

Familiarity with electric vehicles decreases with age. Men are also increasingly likely to be <u>familiar</u> with electric vehicles compared to women. Residents with a lower annual household income are more likely to be <u>unfamiliar</u> with electric vehicles, relative to their counterparts.

#### 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.



### **Experience with Electric Vehicles**

Nearly half of Edmontonians indicate having no experience with electric vehicles. While 28 percent of residents have learned about electric vehicles from a friend, the news or advertising, 27 percent have researched electric vehicles, and 14 percent have spoken with an electric vehicle owner. A total of 13 percent of residents have driven or been a passenger in an electric vehicle, and three percent either currently own an electric vehicle or have owned one in the past.

The proportion of Edmonton residents having no experience with electric vehicles <u>increases</u> with age, and <u>decreases</u> with household income. Women are also more likely than men to have no experience with electric vehicles, while those who recall communications from the City on climate change programs are less likely than their counterparts to have no experience.

Likelihood for both having learned about electric vehicles from a friend, the news or advertising, and having researched electric vehicles, decreases with age, and is lowest among those with a lower household incomes.

#### Statements That Personally Apply in Terms of Electric Vehicles



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.



### Likelihood of Purchase

While 21 percent of Edmontonians are likely to buy and electric car for their next vehicle purchase, 34 percent are unlikely to do the same.

For Edmonton residents, the likelihood of buying an electric car as their next vehicle purchase decreases with age. Men are also more likely than women to purchase an electric car next time they are in the market for a vehicle.

Residents who recall climate change campaigns from the City, aided and unaided, are more likely to buy an electric car as their next vehicle than their counterparts.

### Likelihood of Buying Electric Vehicle for Next Vehicle



Q.28: How likely are you to buy an electric vehicle for your next vehicle purchase? (n=1,005) \*Due to rounding.



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.

Although price remains the most frequently identified factor preventing residents from purchasing an electric vehicle across all age groups, the proportion of residents reporting price as a barrier this year is down five points compared to 2020. Meanwhile, barriers including access and distance to charging stations (up 14% and 7% since 2020 respectively) are more commonly cited by Edmontonians this year than in previous years.

Additionally, issues related to charging stations, suitability of electric vehicles for winter conditions, and the limited availability of new vehicles for purchase are more likely to be cited by those with higher annual household incomes, and those who own their homes.

#### **Factors Preventing Electric Vehicle Purchase**

|   | 2019<br>(n=1,003) | 2020<br>(n=1,001) | 2021<br>(n=1,005) |
|---|-------------------|-------------------|-------------------|
| The price of an electric vehicle  | 62%               | 65%               | 60%               |
| Access to electric vehicle charging stations  | 37%               | 38%               | 52%               |
| Distance between charging stations doesn't allow me to travel where I want to go      | 36%               | 35%               | 42%               |
| Electric vehicles are not good in the winter  | 30%               | 31%               | 33%               |
| Availability of electric vehicles for purchase in Edmonton~                           | 21%               | 16%               | n/a               |
| The limited availability of <u>used</u> electric vehicles for<br>purchase in Edmonton | n/a               | n/a               | 23%               |
| The limited availability of <u>new</u> electric vehicles for purchase<br>in Edmonton  | n/a               | n/a               | 18%               |
| Availability to test drive the vehicle before purchasing                              | 10%               | 11%               | 12%               |
| I don't drive   | 11%               | 10%               | 8%                |
| I already have an electric vehicle  | 2%                | 2%                | 1%                |
| Other   | 8%                | 10%               | 4%                |
| None of the above, but will not be buying an electric vehicle                         | 7%                | 7%                | 8%                |
| Will not be buying any vehicle.   | n/a               | n/a               | 7%                |

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: Question allowed for multiple responses to be selected. "No longer an option in 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 option in 2021.



### Motivators to Purchase

Motivating factors for purchasing an electric vehicle are multi-faceted and similar to a year ago, with some exceptions. A new factor this year, the cost of an electric vehicle being lower than that of a non-electric vehicle, tied with economic benefits as the top factors motivating purchase.

Younger residents are <u>more</u> inclined to cite reduced greenhouse emissions, abundant availability of electric vehicles (including used ones) in Edmonton, and innovation as a motivating factor for purchasing an electric vehicle. While economics is of greater importance to residents aged 18-34 than their counterparts, lower costs for electric vehicles, and incentives are of similar importance across all age demographics.

Those with lower annual household incomes are most likely to respond 'none of the above' to the presented list of motivating factors.

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

Q.29: Which, if any, of the following factors might <u>motivate</u> you to purchase an electric vehicle in the future? Note: Question allowed for multiple responses to be selected. \*New statement in 2021.

#### **Factors Motivating Electric Vehicle Purchase**



Forty-eight percent of Edmontonians are aware that there are public charging stations for electric vehicles in Edmonton. This marks a decline of eight points in awareness from 2020 results, and an overall decline in awareness since 2019.

Awareness is lower among older residents (aged 55+) compared to younger residents. 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.

There is also a clear relationship between awareness of electric vehicle charging stations, and level of experience with electric vehicles. Specifically, those who have researched or looked for information about electric vehicles, have learned about electric vehicles from a friend or family member, or have spoken with the owner of an electric vehicle, are more likely than their counterparts to be aware of public charging stations in the City. Meanwhile, those who have no experiences with electric vehicles are less likely than their counterparts to be aware.



#### 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?

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#### Awareness of Public Charging Stations Versus Experience With Electric Vehicles

|  | Aware of Public Charging Stations |     |          |
|--|-----------------------------------|-----|----------|
|  | Yes                               | No  | Not sure |
| I have no experience with electric vehicles            | 37%                               | 46% | 17%      |
| I have some experience with electric vehicles, I have: |                                   |     |          |
| Researched information about electric vehicles         | 65%                               | 26% | 9%       |
| Learned about electric vehicles                        | 57%                               | 30% | 13%      |
| Spoken with an electric vehicle owner                  | 57%                               | 31% | 12%      |
| Driven or been a passenger in an electric vehicle      | 53%                               | 35% | 12%      |
| I own or have owned an electric vehicle                | 64%                               | 28% | 8%       |
| Other  | 30%                               | 36% | 33%      |

Q.27: Which of the following statements apply to your personal experience with electric vehicles? Please select as many as apply to you. (n=1,005) Note: Question allowed for multiple responses to be selected.

Q.30A: Are you aware that there are public charging stations for electric vehicles in Edmonton? (n=1,005)









Thirteen percent say they are likely to purchase an electric bicycle in the next three years, up two points since 2020. Meanwhile, 40 percent are not likely to purchase an electric bike in the same timeframe.

The likelihood of purchasing an electric bicycle decreases with age, and is elevated among men compared to women.

Additionally, residents who recall seeing or hearing information about climate change programs from the City are more likely to buy an electric bicycle.

Of note, two percent of Edmontonians report here that they already own an electric bicycle.

#### Likelihood of Buying Electric Bicycle in Next 3 Years



Q.31: How likely or unlikely are you to buy an electric bicycle (e-bike) in the next three years?



NARRATIVE RESEARCH



# **Transportation Choices and Climate Change Impact**





### Transportation Used in the Past Month

Consistent with past results, 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 transportation.

Of note, the proportion who used public transportation in the last 30 days has increased slightly compared to 2020 results (up three points), but remains low relative to the pre-pandemic levels recorded in 2019.

Older residents aged 55+ years are most likely to have been a driver of a motor vehicle in the past 30 days, and least likely to have been a passenger of public or private transportation, or to have been a cyclist.

Homeowners are more likely than renters to have driven a motor vehicle or cycled in the past 30 days, and far less likely to have used public transportation.

#### **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? Note: Question allowed for multiple responses to be selected.



Thirty-one percent of residents indicate they are likely to walk, bike, take public transit or car share for the majority of trips to reduce their impact on climate change, while 39% believe they are <u>not</u> likely to perform such activities. Ten percent mentioned they already do these activities, down four points since 2020.

Although there is an increase in the likelihood of making eco-friendly transportation choices, there is also an increase in the proportion who confirmed they are unlikely to partake in such activities relative to 2020.

The likelihood of undertaking eco-friendly transportation the majority of the time decreases with age, and with household income. Homeowners are also less likely than renters to routinely use eco-friendly transportation. Meanwhile, residents who recall City communications about climate change programs are more likely to regularly use eco-friendly transportation, as compared to their counterparts.

### Likelihood of Walking, Biking, Taking Public Transit, or Car Sharing for a Majority of Trips to Reduce Impact on Climate Change

2018 (n=1000) 2019 (n=1,003) 2020 (n=1,001) 2021 (n=1,005)



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 impact on climate change? \*Due to rounding.









Twenty-three percent of residents recall, unaided, seeing or hearing about climate change programs or advertisements from the City of Edmonton, up six percentage points. When prompted to recall what residents saw or heard, 20 percent mention waste reduction/recycling information, and nine percent mention information about climate change.

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. Apart from the mentions of waste reduction/recycling, other topics identified included information about climate change, solar energy/panels, energy efficiency upgrades, reducing emissions, and promoting and upgrading public transit.





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=234)



### Awareness of Change for Climate Campaign

When aided or prompted with specific campaign images, 36 percent of residents recall at least one of the six individual images from the City of Edmonton's Change for Climate campaign. This marks a decline of three percentage points as compared to last year's results.

Younger residents (age 18-34) were more likely than their older counterparts to recall the campaign images. Recall also decreases with household income. **36%** recall seeing one or more of the six\* images from the City of Edmonton's *Change for Climate* campaign (vs. 39% in 2020, 44% in 2019, and 29% in 2018)

\*In 2018 and 2019, seven images were tested, and in 2020 nine images were tested.



Q.35a-f: Which, if any, of the following images related to the City of Edmonton's *Change for Climate* campaign do you recall seeing? (n=1,005) *This question was asked in 2018, 2019, and 2020 but tracking is not provided as different campaign images were tested.* 









### **Five-Year Summary**

#### Public agreement concerning various aspects of climate concern have increased markedly relative to 2017.

As this iteration marks the fifth wave of the Climate Change and Energy Perceptions Report for the City of Edmonton, it is important to reflect on notable changes that have occurred since the study's outset. 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. This said, in comparing the results from 2017 to those collected this year, there are substantial differences and commendable improvements with respect to public perceptions and feelings vis-a-vis climate change.

While Edmontonians' personal feelings concerning various aspects related to climate change (Q1) have strengthened notably across six of the seven measurements since 2017, their general level of concern about climate change has remained relatively constant over the last five years. Meanwhile, agreement has increased markedly across all seven categories in terms of perceptions of other Edmontonians on climate change topics (Q2).

#### Climate Change Opinions 2017 vs. 2021

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

|   | Personal Feelings |                   | Perceptions About<br>Edmontonians |                 |                   |             |
|---|-------------------|-------------------|-----------------------------------|-----------------|-------------------|-------------|
|   | 2017<br>(n=506)   | 2021<br>(n=1,005) | %<br>Change                       | 2017<br>(n=506) | 2021<br>(n=1,005) | %<br>Change |
| Concerned about climate change  | 73%               | 75%               | 2%                                | 39%             | 52%               | 13%         |
| Need to act now to address<br>climate change                                  | 72%               | 77%               | 5%                                | 41%             | 52%               | 11%         |
| Climate change is caused mostly<br>by human activities                        | 69%               | 74%               | 5%                                | 48%             | 59%               | 11%         |
| Individual actions contribute to<br>the global impacts of climate<br>change   | 62%               | 71%               | 9%                                | 37%             | 48%               | 11%         |
| Edmonton residents should be<br>doing more to help address<br>climate change~ | 60%               | 72%               | 12%                               | 36%             | 51%               | 15%         |
| Want to do more personally to<br>help address climate change~                 | 60%               | 70%               | 10%                               | 35%             | 46%               | 11%         |
| Taking action to address climate<br>change~                                   | 54%               | 66%               | 12%                               | 25%             | 36%               | 11%         |

Q.1b-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-g: The next few statements are about how you think <u>Edmontonians</u> 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

## **Climate Change and Energy Perceptions Report**

July 2021

Prepared for: The City of Edmonton











<u>i</u>\i

Edmonton

### Demographics

The following summarizes the weighted demographic profile of survey respondents.

|                |   | (n=1,005) |
|----------------|---|-----------|
|                | Gender  |           |
| <b>/ /in \</b> | Woman/Girl  | 49%       |
|                | Man/Boy   | 49%       |
|                | Non-binary  | 1%        |
|                | Age   |           |
|                | 18-24   | 13%       |
|                | 25-34   | 23%       |
|                | 35-44   | 18%       |
|                | 45-54   | 16%       |
|                | 55-64   | 15%       |
|                | 65 or older   | 15%       |
|                | Highest Level of Education Completed                |           |
|                | Some high school                                    | 4%        |
|                | Completed high school                               | 14%       |
|                | Some community college/technical college/CEGEP      | 12%       |
|                | Completed community college/technical college/CEGEP | 18%       |
|                | Some university                                     | 9%        |
|                | Completed university                                | 32%       |
|                | Post-graduate degree                                | 11%       |

|   | (n=1,005) |
|---|-----------|
| Household Income in 2020  |           |
| Up to \$40,000  | 18%       |
| \$40,001 - \$60,000   | 15%       |
| \$60,001 - \$80,000   | 15%       |
| \$80,001 - \$100,000  | 13%       |
| \$100,001 - \$150,000   | 16%       |
| More than \$150,000   | 10%       |
| Prefer not to answer  | 13%       |
| Dwelling Type   |           |
| Fully detached house  | 53%       |
| Condo/apartment   | 25%       |
| Townhouse/row house   | 11%       |
| Semi-detached house/duplex  | 7%        |
| Other   | 2%        |
| Not sure  | 1%        |
| [If currently rent or lease]<br><i>Planning to Buy a Home in Next 12 Months</i> | (n=332)   |
| Yes   | 15%       |
| No  | 64%       |
| Not sure  | 21%       |