

City of Calgary Drinking Water Study 2017



Prepared for

City of Calgary

March 1st, 2017



RESEARCH INC.

...for what you need to know.

For more information on this research project, please contact:

Probe Research Inc.

Suite 850 – 125 Garry Street | Winnipeg, MB R3C 3P2

Tel: (204) 926-6565 | Fax: (204) 926-6566

E-mail: probe@probe-research.com

TABLE OF CONTENTS

1.0	INTRODUCTION AND METHODOLOGY	0
2.0	PROFILE OF RESPONDENTS	2
3.0	RESEARCH RESULTS	3
3.1	AWARENESS AND TREATMENT ISSUES	3
3.1.1	<i>Awareness of Tap Water Origin</i>	<i>3</i>
3.1.2	<i>Identification of Tap Water Source</i>	<i>4</i>
3.1.3	<i>Origins of Municipal Water Systems.....</i>	<i>5</i>
3.2	WATER QUALITY ISSUES AND CONFIDENCE IN TAP WATER SUPPLIES.....	6
3.2.1	<i>Consumer Confidence in Tap Water Safety</i>	<i>6</i>
3.2.2	<i>Comparative Quality of Drinking Water</i>	<i>7</i>
3.3	CLIMATE CHANGE AND DRINKING WATER SUPPLIES	8
3.3.1	<i>Self-Assessment of Knowledge Regarding Climate Change and Drinking Water Supplies</i>	<i>8</i>
3.3.2	<i>Perceived Impact of Climate Change on Drinking Water Supplies</i>	<i>9</i>
3.3.3	<i>Perceived Risk of Basement Flooding Due to Climate Change.....</i>	<i>10</i>
3.3.4	<i>Perceived Resiliency of Water Infrastructure Against Climate Change.....</i>	<i>11</i>
3.3.5	<i>Perceived Urgency of Addressing Climate Change.....</i>	<i>12</i>
3.4	CONSUMERS AND THEIR WATER UTILITIES	13
3.4.1	<i>Customer Satisfaction with Water Utilities</i>	<i>13</i>
3.4.2	<i>Satisfaction with Selected Aspects of Tap Water</i>	<i>14</i>
3.4.3	<i>Municipal System Users' Satisfaction with Selected Aspects of Tap Water.....</i>	<i>15</i>
3.4.4	<i>Assessment of Municipal Water Infrastructure</i>	<i>16</i>
3.4.5	<i>Public Perceptions Regarding Current Water Pricing Structures.....</i>	<i>17</i>
3.4.6	<i>Willingness to Pay More for Tap Water Safety</i>	<i>18</i>
3.4.7	<i>Expectations Regarding Future Price Increases</i>	<i>19</i>
3.5	WATER CONSERVATION AND SOURCE WATER PROTECTION	20
3.5.1	<i>Household Environmental Practices.....</i>	<i>20</i>
3.5.2	<i>Household Water Conservation Efforts</i>	<i>25</i>
3.5.3	<i>Actions to Reduce Outdoor Water Use</i>	<i>26</i>
3.5.4	<i>Rationale for Water Conservation</i>	<i>27</i>
3.5.5	<i>Awareness of Source Water Protection.....</i>	<i>28</i>
3.5.6	<i>Common Practices for Disposing of Household Waste Materials</i>	<i>29</i>
3.6	CURRENT CONSUMPTION PATTERNS.....	32
3.6.1	<i>Drinking Water Consumption Patterns</i>	<i>32</i>

3.6.2	<i>Primary Residential Drinking Water Supply Source</i>	33
3.6.3	<i>Incidence of Tap Water Filtration</i>	34
3.6.4	<i>Perceptions of Tap Water as More Socially Responsible than Bottled Water</i>	35
3.7	RESIDENTIAL WATER TREATMENT DEVICES	36
3.7.1	<i>Treated Tap Water Consumption as a Proportion of Daily Drinking Water Intake</i>	36
3.7.2	<i>General Attitudes Towards Residential Water Treatment Devices</i>	37
3.7.3	<i>Household Inventory of Residential Water Treatment Equipment</i>	38
3.7.4	<i>Ownership of Personal Portable Water Bottles Without a Filter</i>	40
3.7.5	<i>Primary Reasons for Purchasing Residential Water Treatment Devices</i>	41
3.7.6	<i>Care in Replacement of Filters in Water Treatment Devices</i>	42
3.8	BOTTLED WATER CONSUMPTION.....	43
3.8.1	<i>Bottled Water as a Proportion of Total Water Consumption</i>	43
3.8.2	<i>Frequency of Consumption of Different Types of Bottled Water</i>	44
3.8.3	<i>Rationale for Consuming Bottled Water Instead of Tap Water</i>	45
3.9	PATTERNS IN HOUSEHOLD DRINKING WATER AND BEVERAGE CONSUMPTION.....	46
3.9.1	<i>A Retrospective on Tap Water Consumption</i>	46
3.9.2	<i>Rationale For Increases in Tap Water Consumption</i>	47
3.9.3	<i>Rationale For Decreases in Tap Water Consumption</i>	48
3.9.4	<i>A Retrospective on Bottled Water Consumption</i>	49
3.9.5	<i>Rationale for Recent Increases in Bottled Water Consumption</i>	50
3.9.6	<i>Rationale for Recent Decreases in Bottled Water Consumption</i>	51
3.9.7	<i>Retrospective on Consumption of Residentially-Treated Tap Water</i>	52
3.10	COMMUNICATION ISSUES.....	53
3.10.1	<i>Current Online Sourcing of Drinking Water-Related Information</i>	53
3.10.2	<i>Information Deficits</i>	54
3.10.3	<i>Desired Areas of Increased Drinking Water Knowledge</i>	55
3.10.4	<i>Preferred Method of Communication About Drinking Water</i>	56

APPENDICES

- ➡ Questionnaire

1.0 INTRODUCTION AND METHODOLOGY

Probe Research was commissioned by the City of Calgary to conduct a survey of Calgary adults. This survey was conducted using an online methodology among a sampling of 406 adults (18 years and over) between January 27th and January 31st, 2017.

The *City of Calgary Drinking Water Study* provides a comprehensive portrait of the drinking water landscape in the City of Calgary with comparative data for the Province of Alberta and Canada. The study examines residents' awareness, attitudes and behaviours regarding key drinking water-related issues and represents a well-planned research strategy for accurate and actionable results.

The survey instrument was designed by Probe Research in close consultation with representatives of the City of Calgary. With a sample of 400 adults, one can be 95 percent certain that the research results are accurate to within +/- 4.9 percentage point (19 times out of 20).

For more information on this research project, please contact:

Mary Lou Mendro
Senior Research Director
Probe Research Inc.
Suite 850 – 125 Garry Street
Winnipeg, Manitoba R3C 3P2

Tel.: (204) 926-6564
Fax: (204) 926-6566
E-mail: marylou@probe-research.com

2.0 PROFILE OF RESPONDENTS

The following table outlines the demographic characteristics of those who responded to the survey:

PROFILE OF RESPONDENTS			
	Total	Men	Women
(%)			
Gender			
Men	49	100	-
Women	51	-	100
Age			
18-34 years	33	33	33
35-54 years	42	44	41
55+ years	24	23	26
Income			
<\$40K	17	13	21
\$40-\$74K	30	28	32
\$75K+	54	59	48
Education			
High school or less	15	16	15
Some post-secondary	19	15	22
University or college graduate	66	68	63
Residence			
Own	73	79	67
Rent	23	16	29
Other	4	4	4
DK/NS removed			

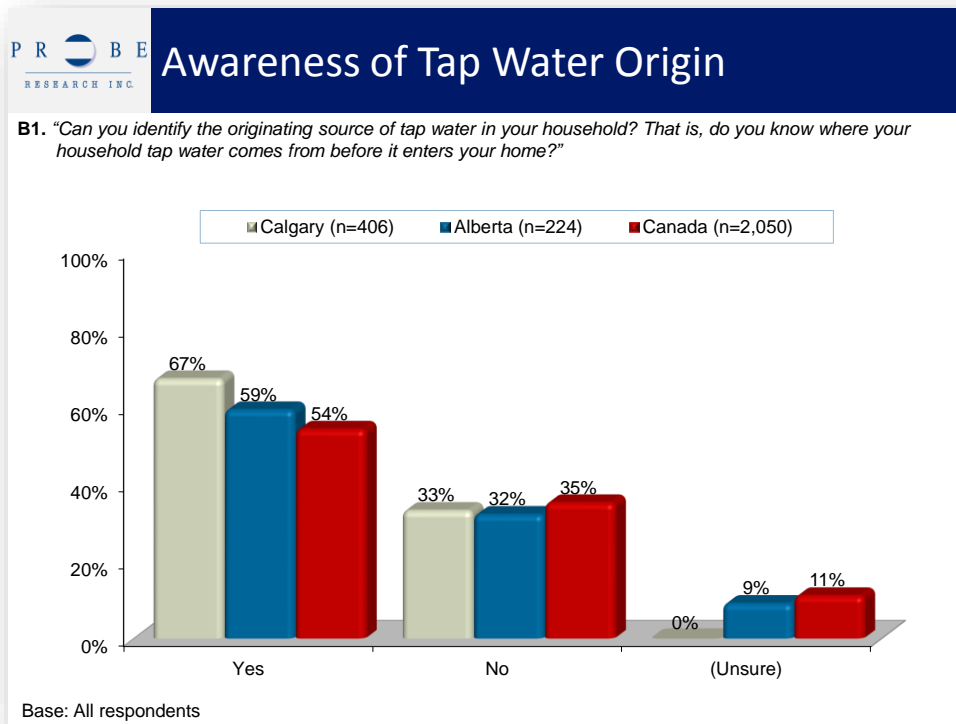
3.0 RESEARCH RESULTS

3.1 Awareness and Treatment Issues

This section of the report examines residents' awareness regarding the source of household tap water supplies.

3.1.1 Awareness of Tap Water Origin

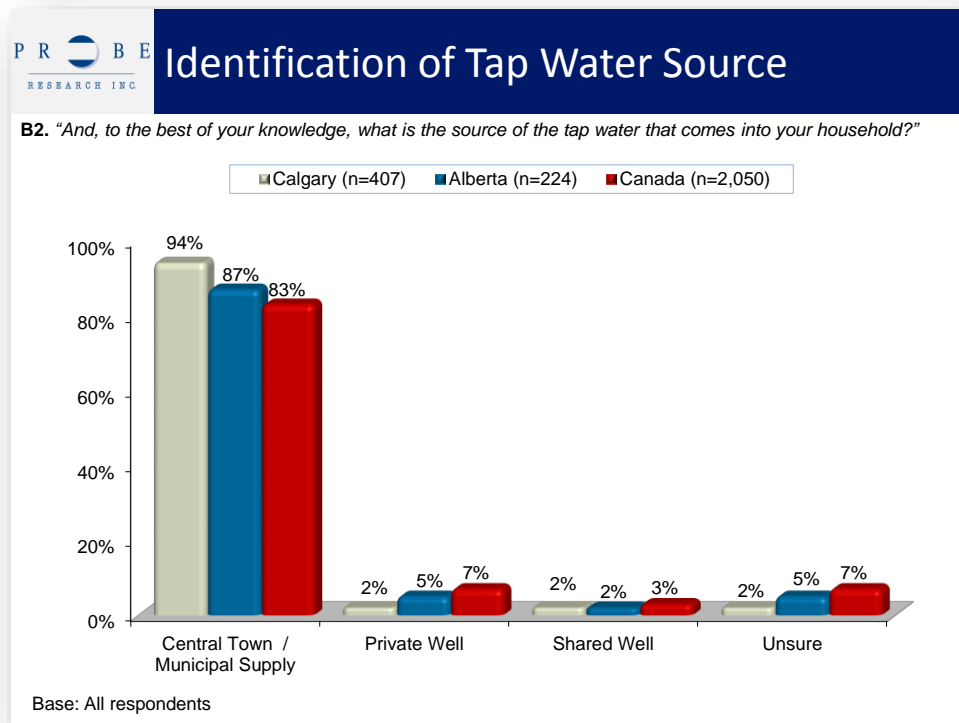
Two-thirds of Calgary residents (67%) were aware of the origin of their household tap water supplies. Levels of familiarity with the origin of tap water supplies among those living in the City of Calgary were higher compared to Albertans (59%) and Canadians (54%) overall.



- Men living in Calgary were more likely than women to be aware of their local tap water source (76% versus 59% "aware" respectively).
- Tap water source awareness among Calgarians increases with age (from 58% "aware" among those aged 18-34 years rising to 65% "aware" among those age 35 to 54 years and peaking at 82% "aware" among those age 55 years and over).

3.1.2 Identification of Tap Water Source

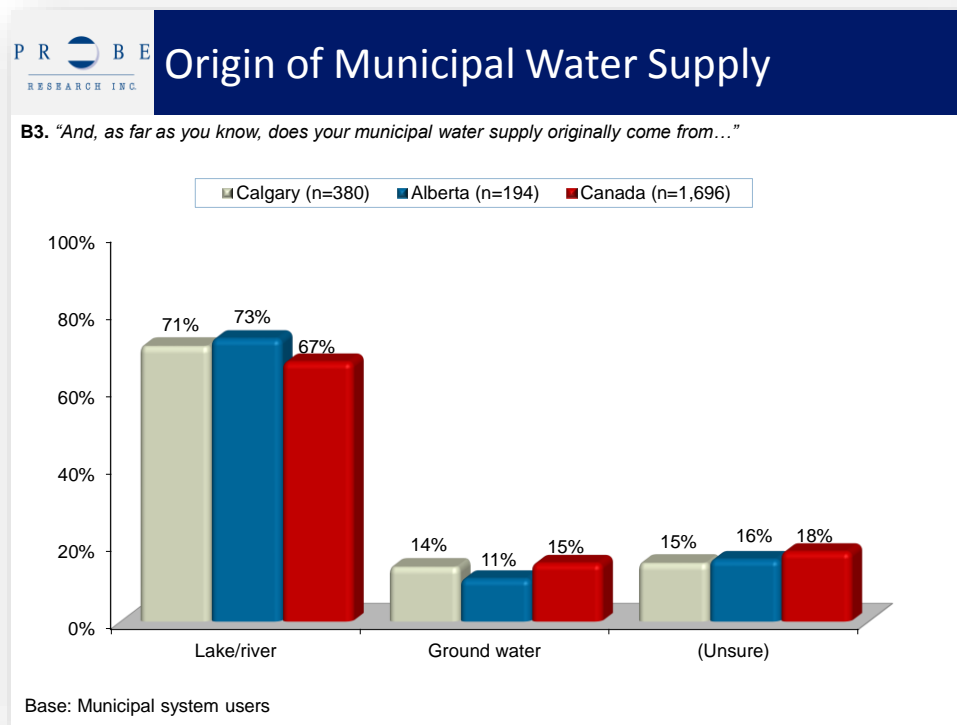
When asked to identify the source of the tap water that enters their homes, nearly all Calgary residents reported that they rely on a *central municipal supply* (94%). Only a very small proportion of households reported a *private well* (2%) or *shared well* (2%) as the source of their tap water supplies.



- The incidence of households that rely on a *municipal water supply* was higher in Calgary compared to Alberta (87%) and Canada (83%) overall.

3.1.3 Origins of Municipal Water Systems

Seven-in-ten Calgary respondents who rely on a central town or municipal supply for their tap water reported that the community's drinking water came from a *lake or river* (71%). One-in-seven Calgary residents reported this water came from a *ground water source* (14%) while a similar proportion of Calgarians expressed uncertainty regarding the origin of their municipal water supply (15% "unsure").



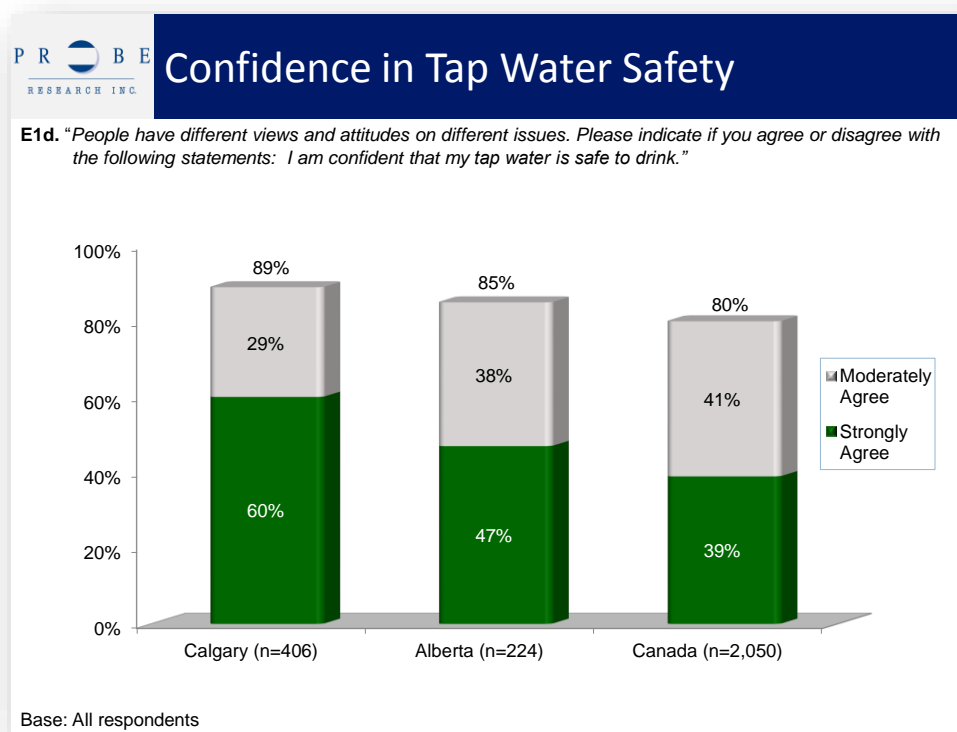
- Sourcing municipal tap water supplies from a lake or river (or other surface water supply) was also prevalent across the Province of Alberta (73%) and nationally (67%).

3.2 Water Quality Issues and Confidence in Tap Water Supplies

Public confidence in the safety of household tap water supplies and perceptions regarding the relative quality of local drinking water supplies among Calgary residents are examined in this section of the report. The study also examines the incidence and frequency of tap water analysis and identifies popular methods for testing household water supplies.

3.2.1 Consumer Confidence in Tap Water Safety

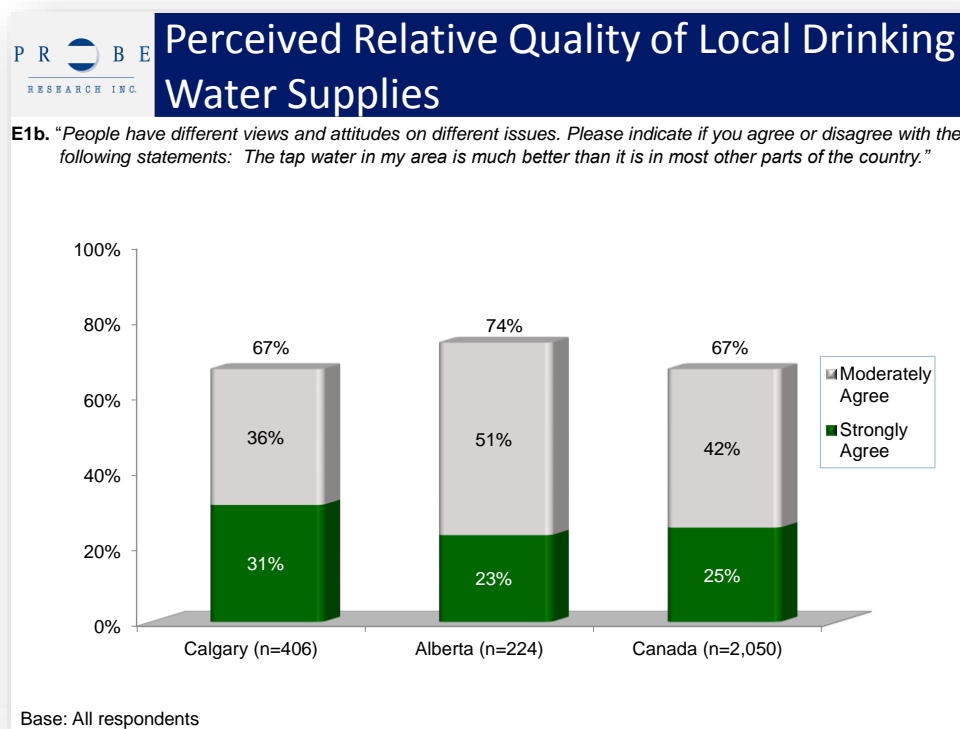
Confidence in the safety of tap water supplies was high in Calgary, with nine-in-ten residents agreeing their tap water is safe to drink (89%, including 60 percent who expressed strong levels of conviction in this regard).



- Nationally, four-in-five Canadians agreed that their tap water was safe to drink (80%) though confidence in the safety of tap water supplies was higher in Alberta (85%) and lower in Quebec (72%).
- Two-thirds of Tap Water Drinkers in Calgary *strongly agree* that their tap water is safe to drink, compared to one-half of Bottled Water Drinkers (68% versus 48% respectively).

3.2.2 Comparative Quality of Drinking Water

Roughly two-thirds of Calgary residents (67%) believe the tap water in their area is better than in other parts of the country.



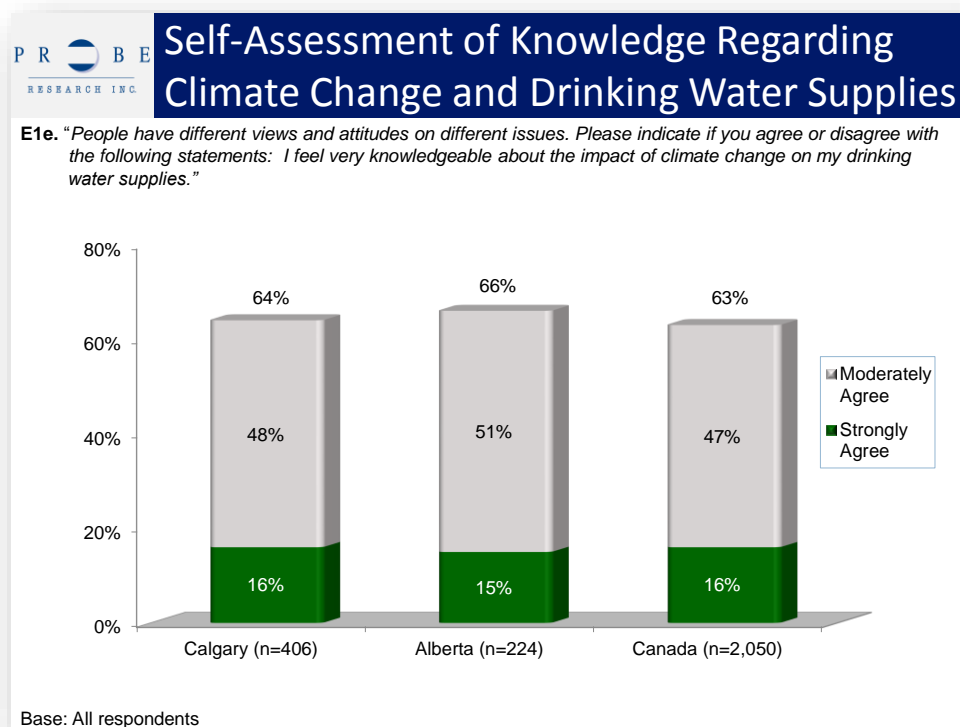
- Across the country, Albertans were most likely to agree their tap water is better than elsewhere in the country, while residents of Quebec were least likely to share this view (74% versus 62% respectively).

3.3 Climate Change and Drinking Water Supplies

Calgarians' self-reported knowledge regarding climate change and their drinking water supplies, and their views regarding the impact of climate change on water-related infrastructure, are explored in this chapter. The research also assesses the perceived urgency of addressing climate change for ensuring a reliable source of future drinking water supplies among Calgary residents.

3.3.1 Self-Assessment of Knowledge Regarding Climate Change and Drinking Water Supplies

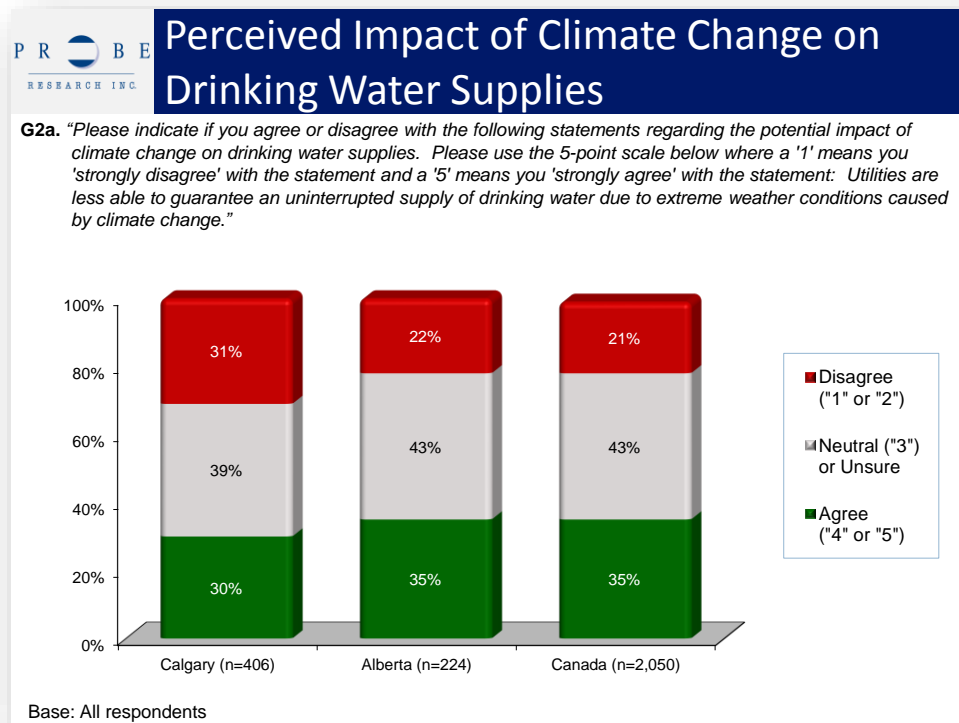
Most Calgarians (64%) reported being knowledgeable about the effects of climate change on their drinking water supplies. This was fairly consistent with the national (63%) and provincial findings in Alberta (66%).



- *Committed Conservationists* (76% "agree") and *Online Info Seekers* (89% "agree") living in the City of Calgary were particularly knowledgeable about climate change and drinking water supplies.

3.3.2 Perceived Impact of Climate Change on Drinking Water Supplies

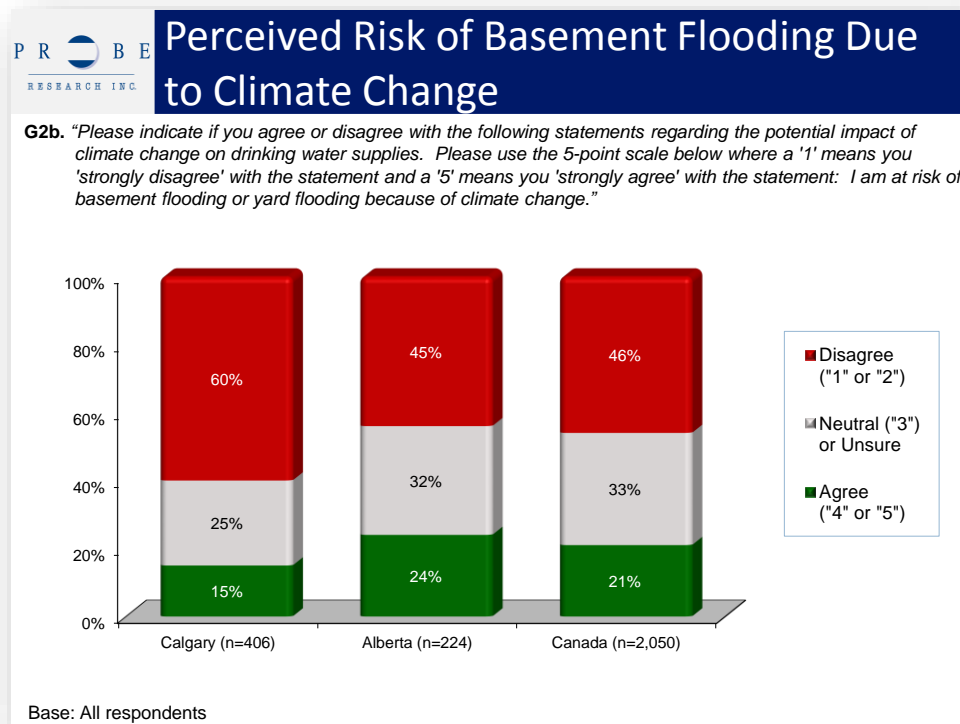
When asked about the effects of climate change on the reliability of drinking water supplies, two-in-five Calgarians (39%) were neutral or unsure about whether or not utilities could guarantee an uninterrupted supply of drinking water due to extreme weather conditions caused by climate change.



- A higher proportion of Calgary residents (31%) *disagreed* that utilities are less able to guarantee a steady supply of drinking water due to the effects of climate change compared to Albertans (22%) and Canadians (21%) in general.
- While more than two-in-five younger Calgary residents aged 18 to 34 years *agreed* that water utilities are less able to guarantee an uninterrupted supply of drinking water due to extreme weather conditions caused by climate change, only two-in-ten of their more senior counterparts aged 55 years and over shared similar views (44% versus 20% "agree" respectively).
- Higher-income Calgary households earning more than \$75K annually were more than twice as likely to *disagree* with the statement compared to less affluent households with annual earnings under \$40K (36% versus 16% "disagree")

3.3.3 Perceived Risk of Basement Flooding Due to Climate Change

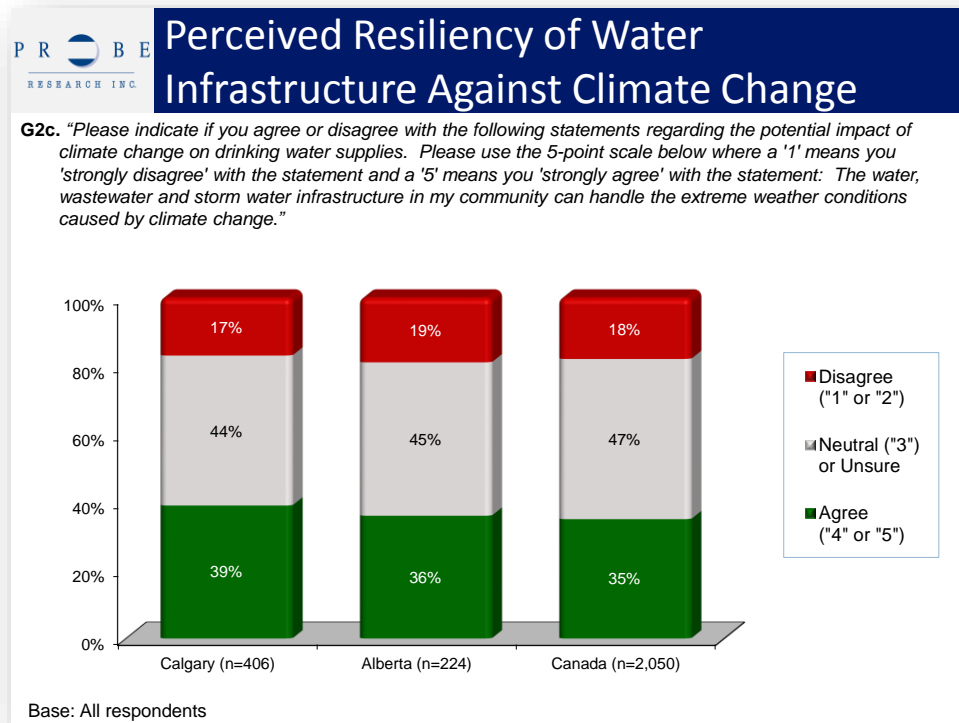
When asked whether or not they felt they were at risk of basement flooding or yard flooding due to climate change, a majority of Calgary residents (60%) did not feel this was cause for concern.



- One-half of younger adults in Calgary *disagreed* that they are at risk of basement flooding due to climate change compared to three-quarters of residents aged 55 years and over who felt threatened in this regard (49% versus 74% “disagree”).
- Apartment or condo dwellers were more likely to report a more neutral view (38% with 21 percent of these respondents noting this was “not applicable” for them).

3.3.4 Perceived Resiliency of Water Infrastructure Against Climate Change

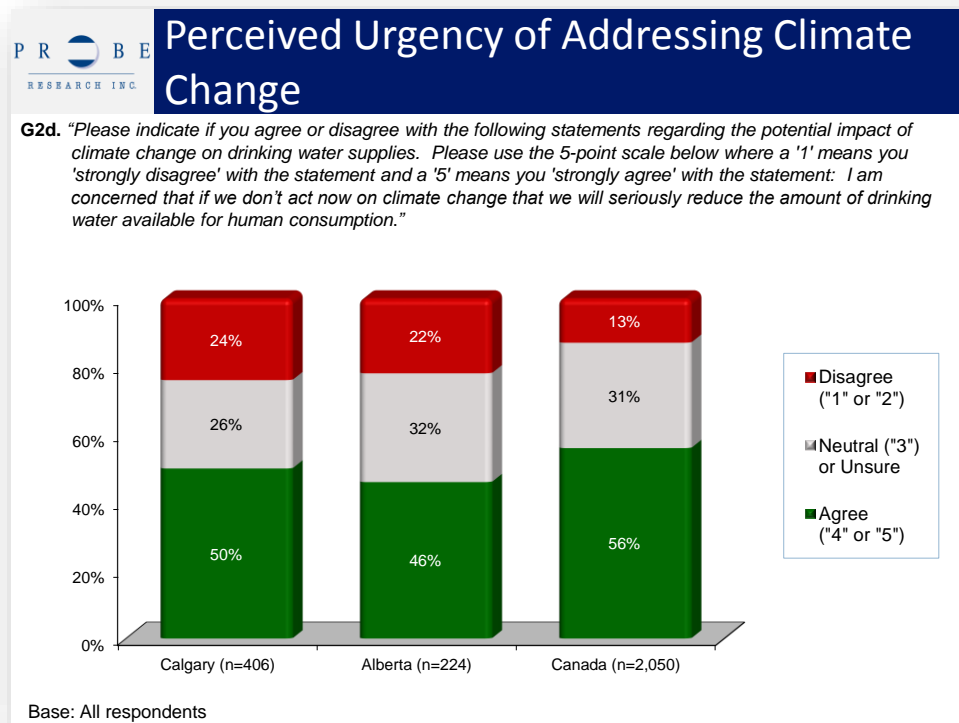
Many Calgary residents are *unsure* whether their community's water infrastructure can handle climate change (44%). Twice as many area residents *agree* as *disagree* that their public water, wastewater and storm water infrastructure is able to handle extreme weather conditions caused by climate change (39% versus 17% respectively).



- Findings in the City of Calgary were fairly consistent with results obtained at the provincial and national levels.
- There was little variation in the results among survey sub-populations.

3.3.5 Perceived Urgency of Addressing Climate Change

One-half of Calgary residents (50%) *agree* that, if we don't act now, climate change will cause a reduction in the amount of water available. The balance are split between those who *disagree* (24%) and those who are uncertain or express a more neutral view (26%)



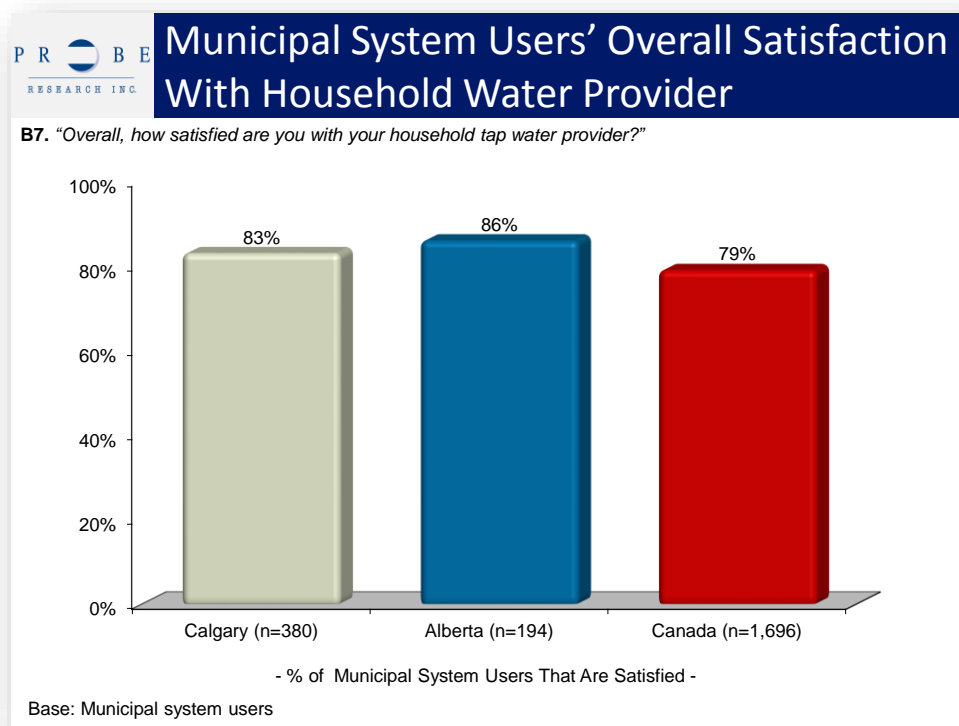
- Calgary residents were slightly less likely to agree that climate change action must be swift to prevent a reduction in drinking water supplies compared to Canadians overall (50% versus 56% "agree").
- Two-thirds of lower income earners in Calgary *agreed* that the need to address climate change to ensure future drinking water supplies was pressing (66% "agree" among those earning less than \$40K annually) compared to just one-half of higher income earning residents earning more than \$75K annually (48% "agree").
- Younger Calgary residents were more concerned about the immediate need to address climate change for drinking water supplies (65% "agree") than their more senior counterparts (42% "agree" among those aged 35 years and over).

3.4 Consumers and their Water Utilities

Customer satisfaction with their municipal water utilities and views regarding selected aspects of tap water supplies are examined in this section of the report. The study also assesses Calgarians' willingness to accept price increases to fund upgrades or pay for enhanced water safety assurances.

3.4.1 Customer Satisfaction with Water Utilities

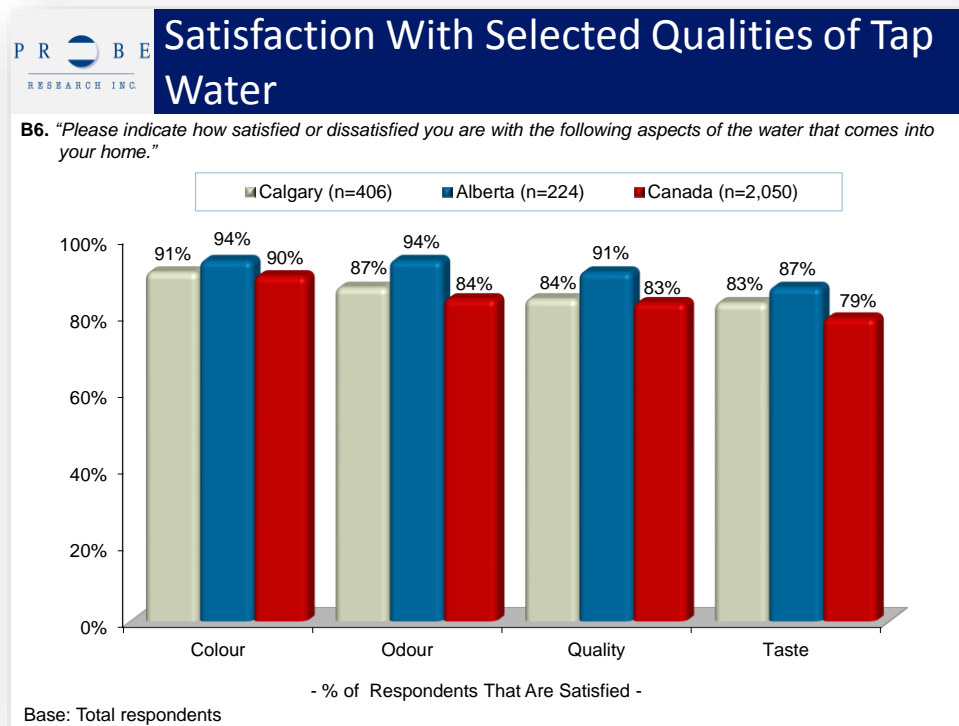
Calgarians who rely on a municipal water system expressed a broad sense of satisfaction with their household tap water providers (83% "satisfied", including 44% "very satisfied"). Only one-in-seven municipal water customers in Calgary expressed discontent (15% "dissatisfied", including 4% "very dissatisfied").



- Calgarians who rely on a municipal water system for their water supplies were more likely than Canadian *Municipal System Users* overall to express strong satisfaction with their tap water providers (44% "very satisfied" compared to 32% respectively).
- Tap Water Drinkers* in the City of Calgary were slightly more likely than average to express strong levels of satisfaction with their tap water providers (51% "very satisfied") while only one-third of *Bottled Water Drinkers* in Calgary expressed similar high levels of satisfaction with their local tap water supplier (34% "very satisfied").

3.4.2 Satisfaction with Selected Aspects of Tap Water

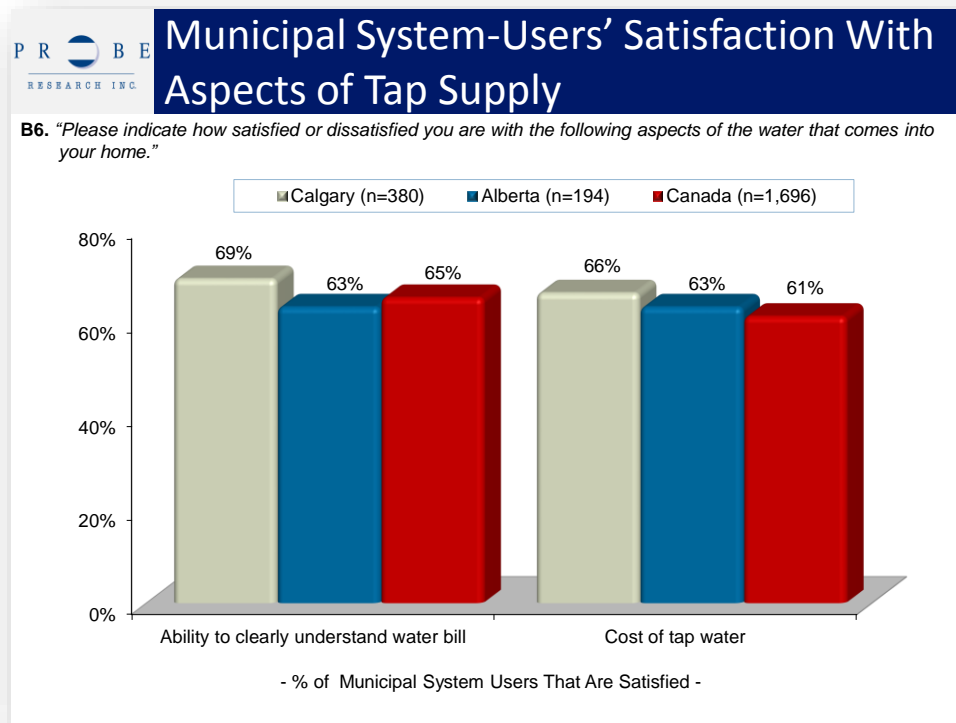
Calgarians expressed broad satisfaction with selected characteristics of their household water supply, including its *colour* (91% “satisfied”), *odour* (87% “satisfied”), *quality* (84% “satisfied”) and *taste* (83% “satisfied”).



- Albertans expressed higher than average levels of satisfaction with their household water supply in regard to colour (94% “satisfied”), odour (94% “satisfied”), quality (91% “satisfied”) and taste (87% “satisfied”) compared to Canadians overall.
- Higher income households in Calgary earning more than \$75K per annum were nearly twice as likely to express strong levels of satisfaction with the *odour* of their tap water compared to those residents earning less than \$40K annually (70% versus 38% “very satisfied” respectively).
- Similarly, this highest income earning bracket earning more than \$75K per annum was twice as likely as those earning less than \$40K to indicate that they were very satisfied with the *quality* of their tap water (66% versus 35% “very satisfied”).

3.4.3 Municipal System Users' Satisfaction with Selected Aspects of Tap Water

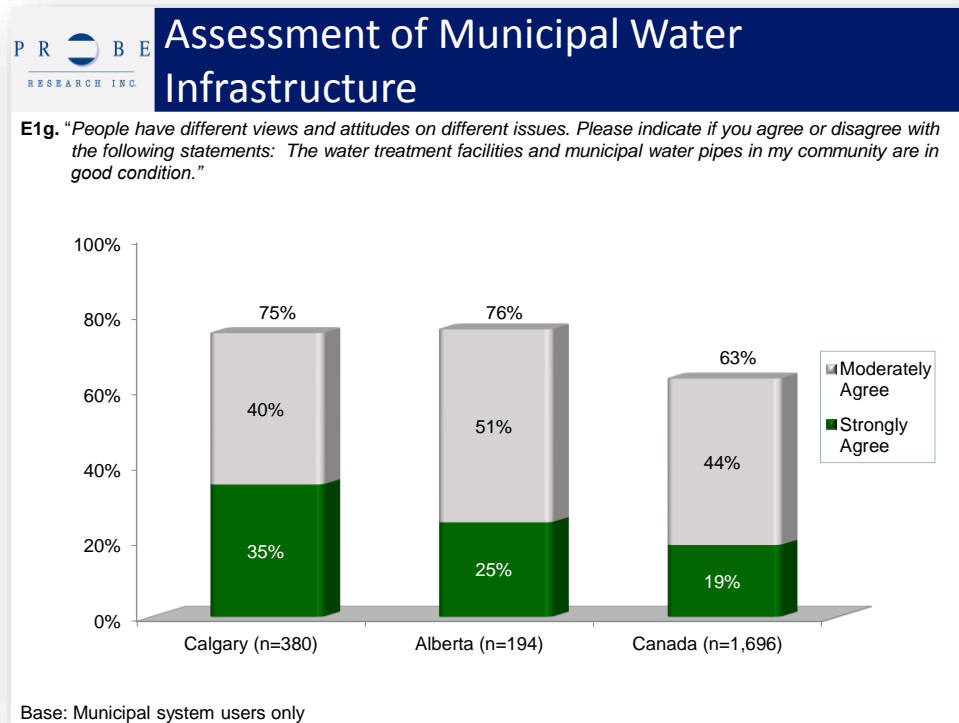
Seven-in-ten municipal water system users in Calgary (69%) expressed satisfaction with the clarity of their water bill. This was slightly higher than the two-thirds (66%) of Calgarians who expressed satisfaction with the cost of their household water supply.



- Calgary residents of households with incomes of less than \$40K were significantly less likely than average to be satisfied with the cost of their tap water (50% "satisfied").
- Over one-quarter of renters in Calgary expressed uncertainty regarding their ability to clearly understand water bills (27% "unsure").

3.4.4 Assessment of Municipal Water Infrastructure

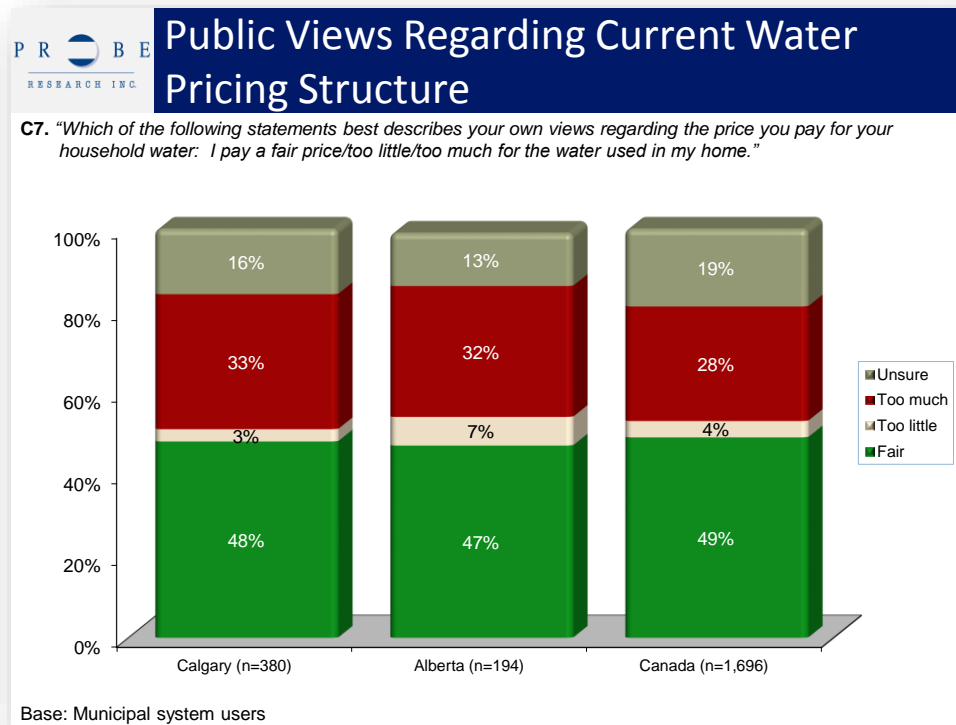
Three-quarters of Calgary residents expressed confidence that their communities' water treatment facilities and municipal water pipes are in good condition (75%) including one-third of municipal system users (35%) who *strongly agree* that this is the case. Seven percent of households did *not* feel their water infrastructure was in a good state of repair, while one-fifth of Calgary residents (18%) expressed uncertainty in this regard.



- While three-quarters of Alberta residents felt their local water infrastructure was in good condition, less than two-thirds of the national populace shared this view (76% versus 63% "agree" respectively).
- Middle-aged Calgary residents were more apt to express strong levels of conviction regarding the sound state of their water infrastructure compared to their younger counterparts (44% "strongly agree" among 35-54 year olds compared to 25% "strongly agree" among Calgary residents aged 18-34 years).
- Levels of uncertainty regarding the state of repair of Calgary's drinking water infrastructure were elevated among residents with a high school diploma or less (34% "unsure"). Conversely, Online Info Seekers expressed low levels of uncertainty in this regard (4% "unsure").

3.4.5 Public Perceptions Regarding Current Water Pricing Structures

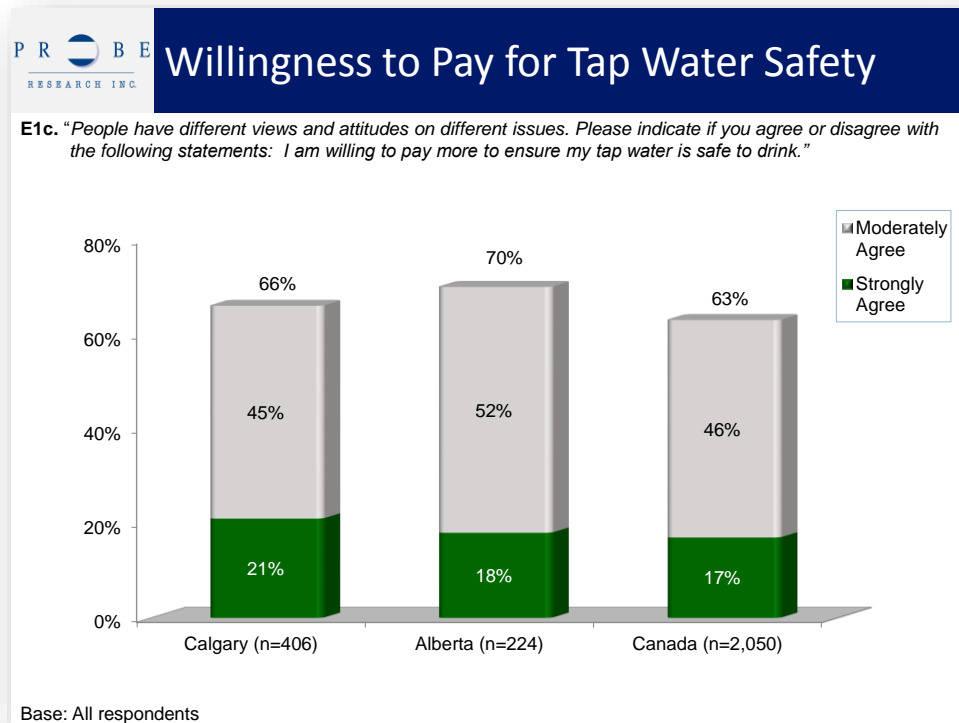
One-half (48%) of municipal system users in Calgary felt they were paying a *fair price* for their household water, whereas one-third of residents (33%) felt they were being charged *too much*. A small number considered what they pay to be *too little* (3%), while roughly one-in-six (16%) were *unsure* whether the price they paid was fair, too much or too little.



- Uncertainty about the cost of municipal water supplies was twice as high among renters in Calgary (37% "unsure").
- Younger Calgarians aged 18-34 years were less likely to consider their tap water to be over-priced (23% "too much").
- A relatively higher proportion of Committed Conservationists felt they were paying too much for their municipal tap water (46%).

3.4.6 Willingness to Pay More for Tap Water Safety

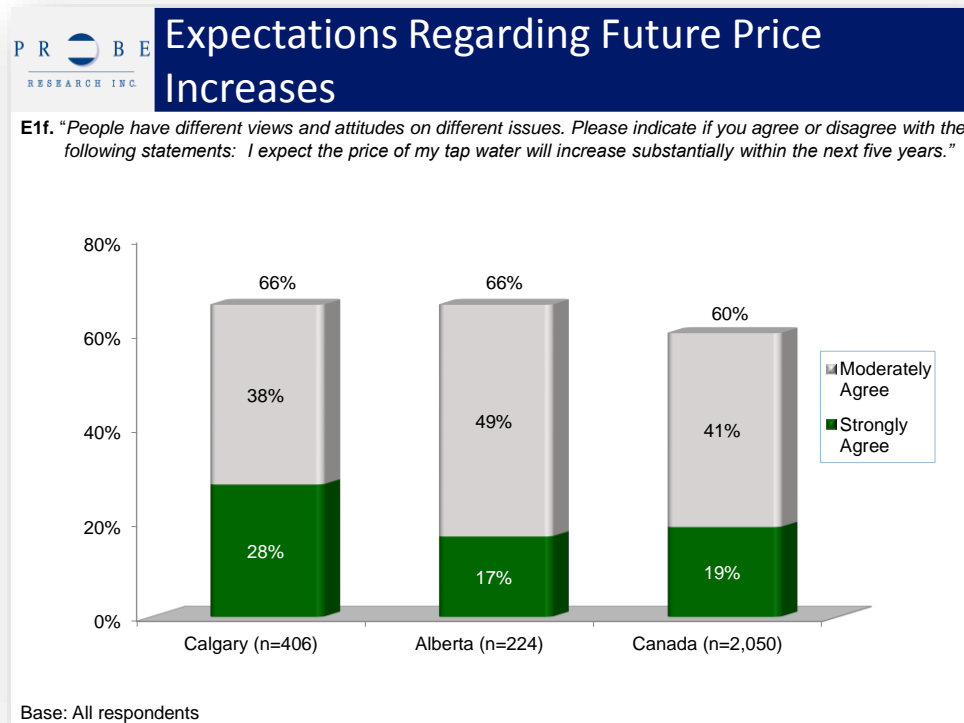
Two-thirds of Calgary residents were willing to pay more to ensure that their tap water is safe to drink (66% “agree”, including 21% who “strongly agree”). A significant minority, however, would oppose any price increases (29% “disagree”, including 12% who “strongly disagree”) in exchange for these safety assurances.



- One-third of households with children at home strongly agreed that they would open their wallets for greater safety assurances about their tap water safety (32% “strongly agree”).

3.4.7 Expectations Regarding Future Price Increases

Two-thirds of Calgary residents (66% “agree”) expect the price of their tap water to increase substantially within the next five years. This includes three-in-ten (28% “strongly agree”) who were very assured that a price increase would be forthcoming. One-fifth of the city’s populace (21%) do not anticipate paying significantly more for their water in the next five years while the balance were uncertain (14% “unsure”).



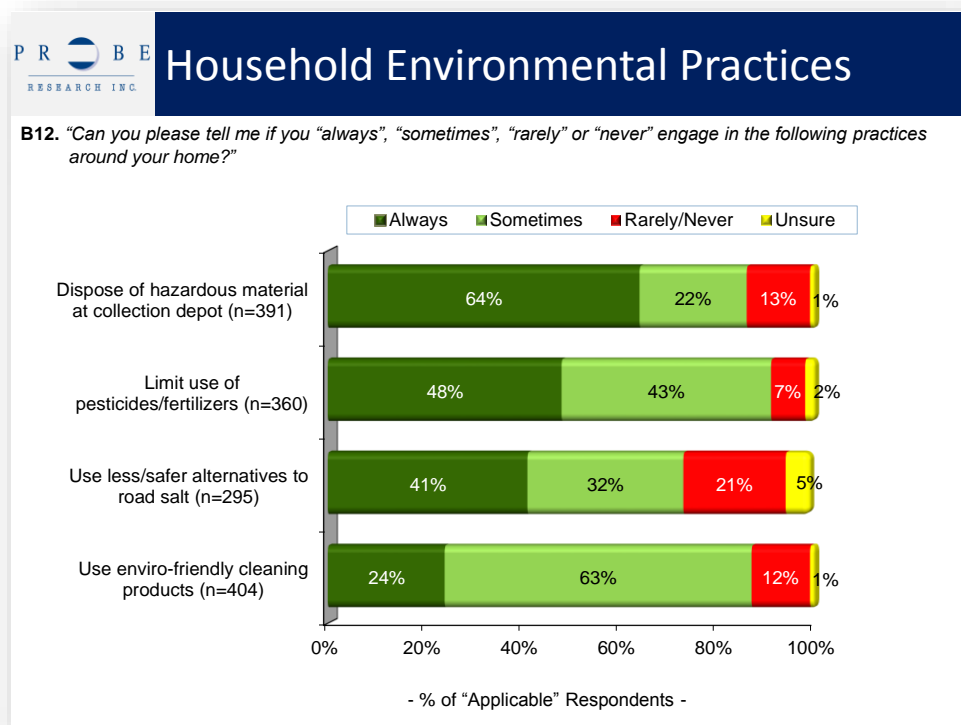
- Online Info Seekers in the City of Calgary were more apt to agree that a significant price increase was imminent (83% “agree”).
- Four-fifths of Calgary residents with a high school education or less expect to be paying significantly more for their water compared to three-fifths of residents with a post-secondary degree (82% versus 61% respectively).
- Two-thirds of Albertans (66%) were convinced that their water prices would increase in the next five years compared to one-half of those living in Quebec (49%).

3.5 Water Conservation and Source Water Protection

This section of the report focuses on Calgarians' water conservation efforts including an examination of how engaged households are in practices that help prevent environmental degradation, how they go about conserving water, and why they make an effort to do so. Residents' awareness and views on source water protection are also explored and public support for government performance in the area of source water protection is discussed.

3.5.1 Household Environmental Practices

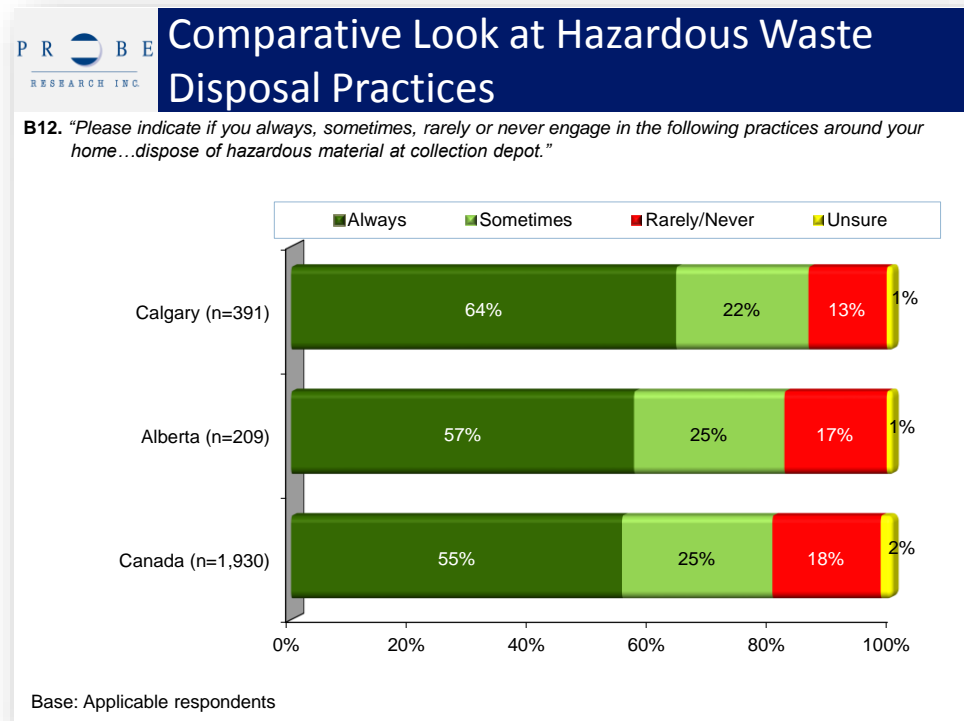
Calgary residents tend to be particularly diligent about *disposing of hazardous materials at a collection depot* (64% "always") and *limiting their pesticide and fertilizer use* (48% "always"). A little more ambivalence was shown toward restricting one's own *use of road salt* (41% "always") and the *use of environmentally friendly cleaning products* (24% "always").



Below we examine household environmental practices among residents in the City of Calgary and provide a comparative examination of these with practices with those of Albertans and those of Canadians overall.

Comparative Look at Hazardous Waste Disposal Practices

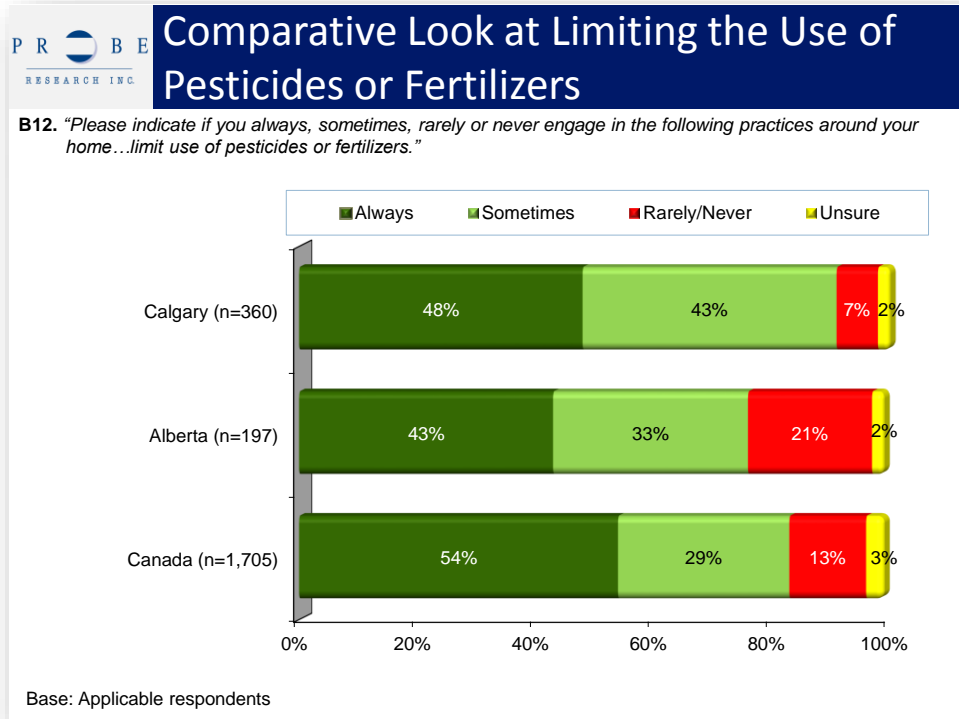
A comparative look at hazardous waste disposal practices reveals that Calgary residents tend to be more diligent about *disposing of hazardous materials at a collection depot* (64% “always”) compared to Albertans (57% “always”) and Canadians (55% “always”) in general.



- Among Calgary residents, the likelihood of *always* disposing of hazardous waste at a collection depot increases with income (increasing from 55% among those earning less than \$40K annually to 62% among those earning \$40K to \$74K annually and topping off at 69% among those earning \$75K or more annually).
- Seven-in-ten Calgary residents who own their homes reported that they *always* dispose of hazardous waste at a collection depot, compared to one-half of renters (70% versus 46% respectively).
- Older Calgarians aged 55+ are among the most reliable users of collection depots and services (79%).

Comparative Look at Limiting the Use of Pesticides or Fertilizers

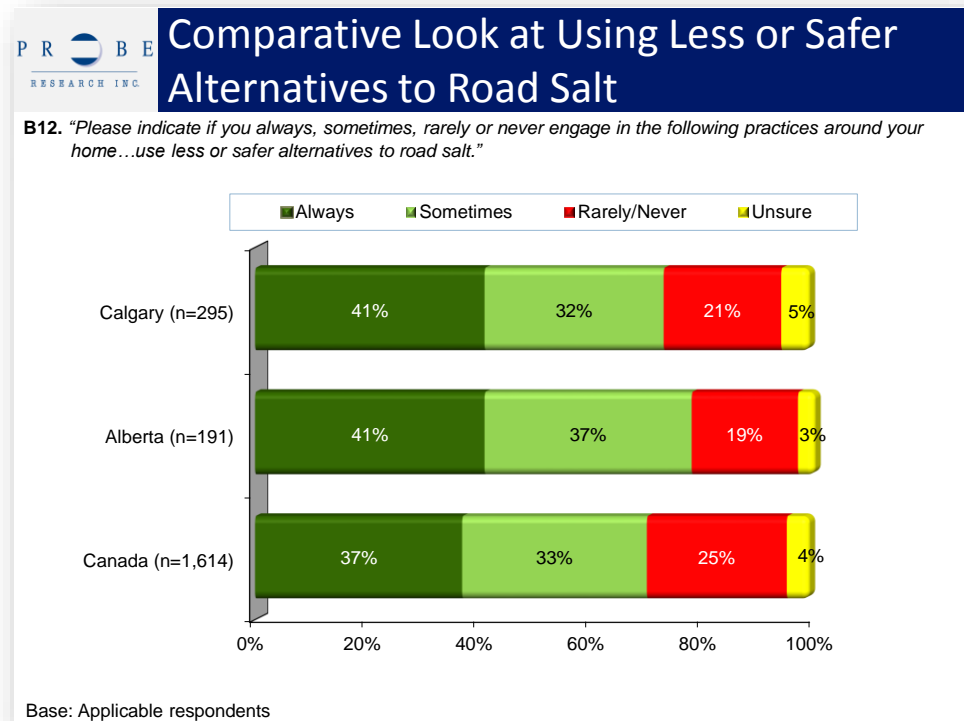
A comparative look at limiting the use of pesticides and fertilizers reveals that Calgary residents tend to be more diligent about always or sometimes trying to *limit the use of pesticides and fertilizers* around their homes (91% “always” or “sometimes”) compared to Albertans (76% “always” or “sometimes”) and Canadians (83% “always” or “sometimes”) in general.



- Committed Conservationist in the City of Calgary were particularly diligent about *always* limiting the use of pesticides and fertilizers around their homes (61% “always”).

Comparative Look at Using Less or Safer Alternatives to Road Salt

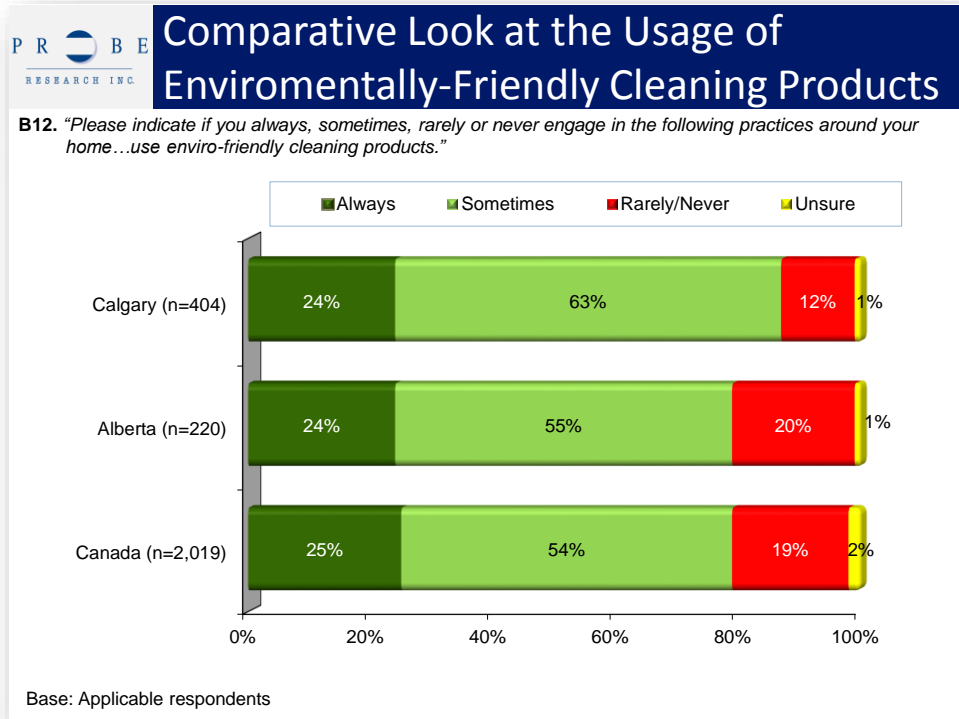
The proportion of Calgary residents who reported that they *always* try to use less or safer alternatives road salt is identical to the provincial results (41% “always” each) and just slightly higher than the national results (37% “always”).



- Two-thirds of Committed Conservationists in the City of Calgary reported that they *always* use less or safer alternatives to road salt (65% “always”).
- The likelihood of *always* using less or safer alternatives to road salt increases with age, rising from 32% among those aged 18 to 34 years to 39% among Calgary residents aged 35 to 54 years and topping off at 60% among Calgary residents aged 55 years and over.

Comparative Look at the Usage of Environmentally Friendly Cleaning Products

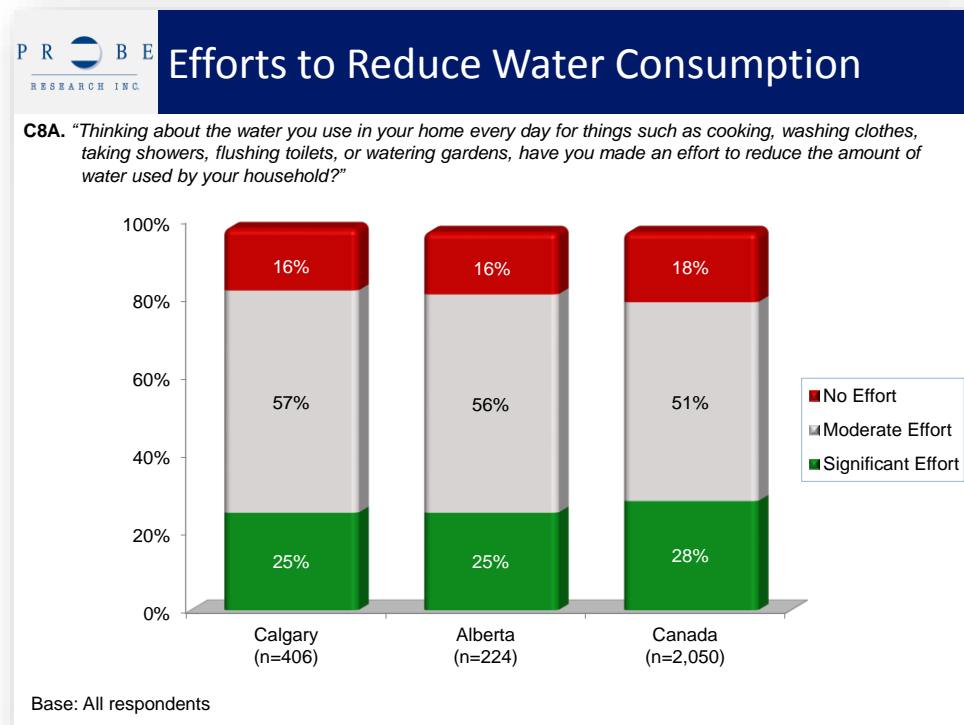
The proportion of Calgary residents who reported that they *always* or at least *sometimes* use environmentally friendly cleaning products around their homes (87%) is slightly higher than the proportion of provincial or national households who make a similar effort to engage in this practice to safeguard the environment (79% each).



- Committed Conservationists in the City of Calgary were significantly more likely than average to report that they *always* use environmentally friendly cleaning products around their homes (45% versus 24% "always").

3.5.2 Household Water Conservation Efforts

One-quarter of Calgary residents (25%) say they have made a *significant effort* to reduce the amount of water used in their households, while another three-in-five households (57%) report making a *moderate effort*. One-in-six residents (16%), however, have made *no effort* to pare back on their water use.

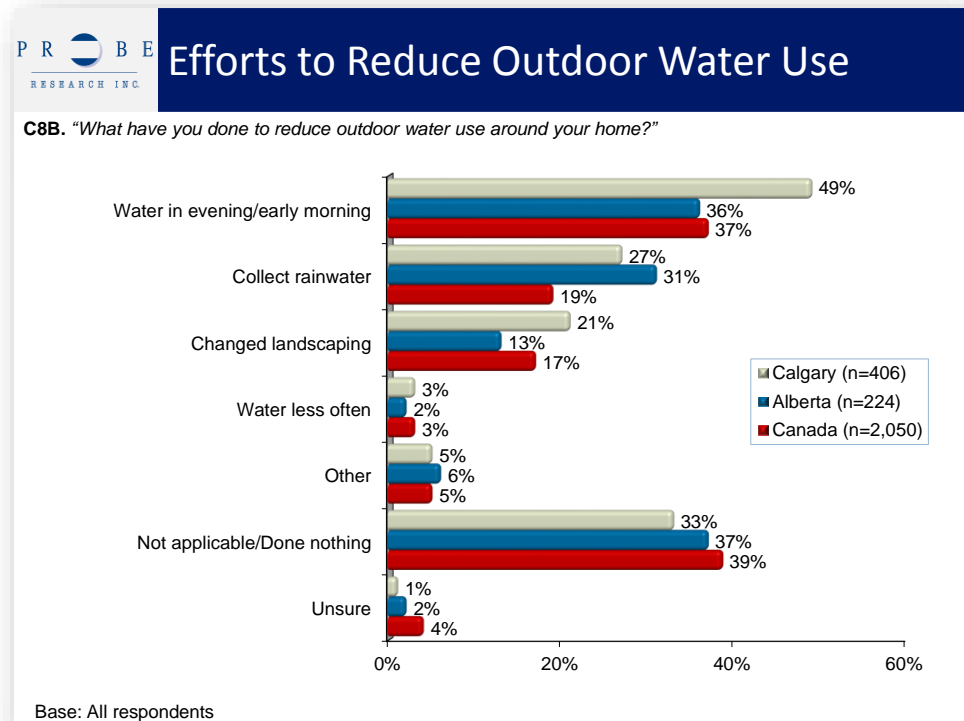


- Online information seekers were particularly motivated to reduce their water use (37%).
- Efforts to conserve water at the household level among Calgary residents were fairly consistent with the provincial and national results.

3.5.3 Actions to Reduce Outdoor Water Use

Some of the ways in which Calgarians have reduced their outdoor water use have been by *watering their lawns in the evenings or early mornings* (49%), followed by *collecting rainwater* (27%) or *changing landscaping* (21%). Small numbers report *watering less often* (3%) or mentioned *other activities* (5%).

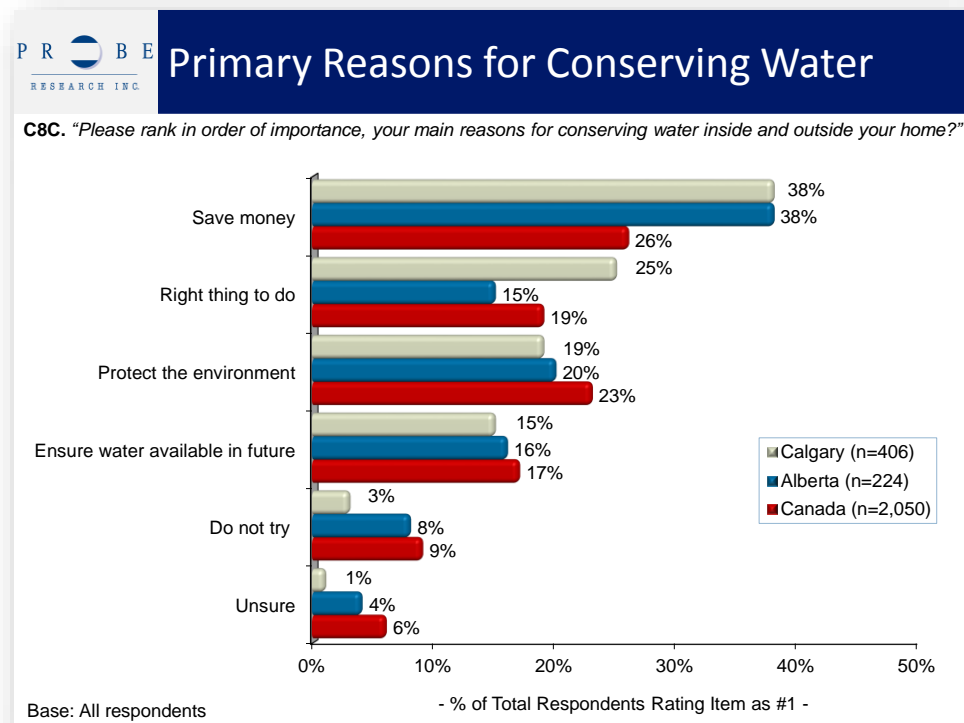
One-third of Calgary households (33%) indicate that they have either *done nothing* (15%) or that this question is *not applicable* for them (18%).



- *Evening or early-morning lawn watering* was less common among lower income Calgary households (30% among those earning less than \$40K annually) as compared to their more affluent counterparts (51% among those earning \$40K to \$54K annually and 54% among those earning \$75K or more annually).
- Over one-half (57%) of Calgary residents living in an apartment or condominium said that reducing outdoor water use was *not applicable* for them compared to four percent of single family household dwellers.
- Homeowners in the City of Calgary were more likely than renters to engage in various water-saving activities, including *watering lawns during the early morning or evening hours* (57% versus 26% respectively), *collecting rainwater* (30% versus 12%) and *changing their landscaping* (25% versus 9%).
- For their part, a majority of renters have taken none of these measures (57%, including 40% "not applicable" and 17% "have done nothing").
- Calgarians were more astute about *watering lawns during the early morning or evening hours* (49%) than Albertans (36%) or Canadians (37%) overall.

3.5.4 Rationale for Water Conservation

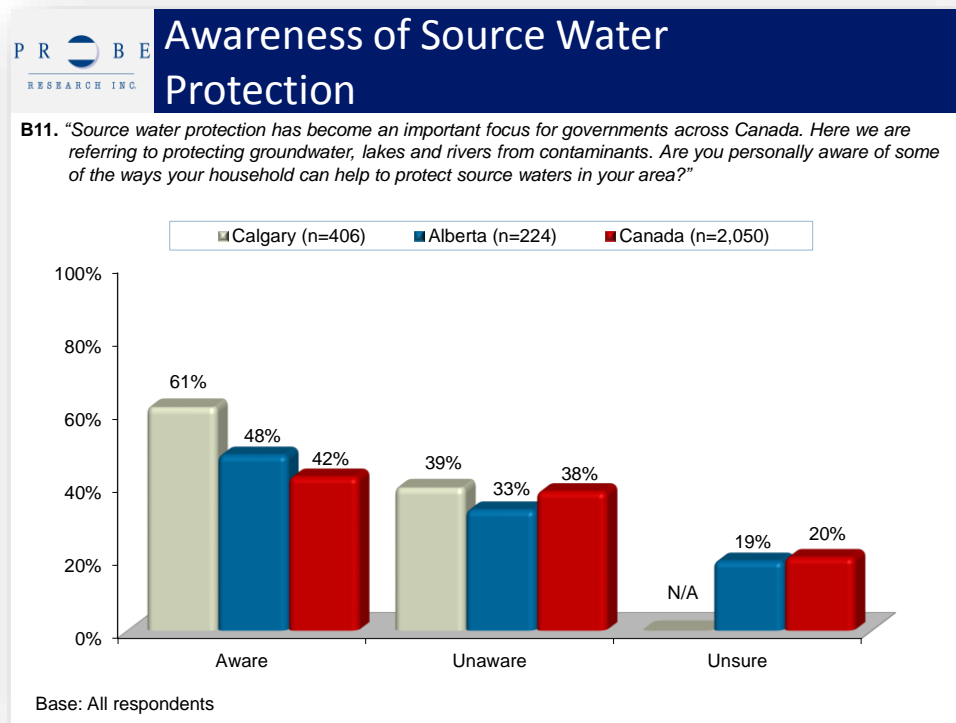
Having been presented with several common reasons for conserving water, by far *saving money* (38%) ranked as the most important factor impacting on Calgarians' water conservation behaviours. One-quarter of residents however, indicated that their top consideration was that it was *the right thing to do* (25%) or that they engaged in this practice because they wanted to *protect the environment* (19%). One-in-seven residents conserved water to *ensure that water would be available in the future* (15%). Only three percent of Calgary households conceded that they *do not try to save water*.



- Calgary residents (25%) were more driven to conserve water *because it's the right thing to do* as compared to Albertans (15%) or Canadians (19%) overall.
- Saving money was a less motivate factor among apartment or condo residents (22%), perhaps due to water bills not being paid directly by the household.

3.5.5 Awareness of Source Water Protection

Three-in-five Calgary residents expressed awareness of ways that their household can help protect source waters (61%) while two-in-five Calgarians were not familiar with any steps their household can take to safeguard source waters in their area (39% “unaware”).



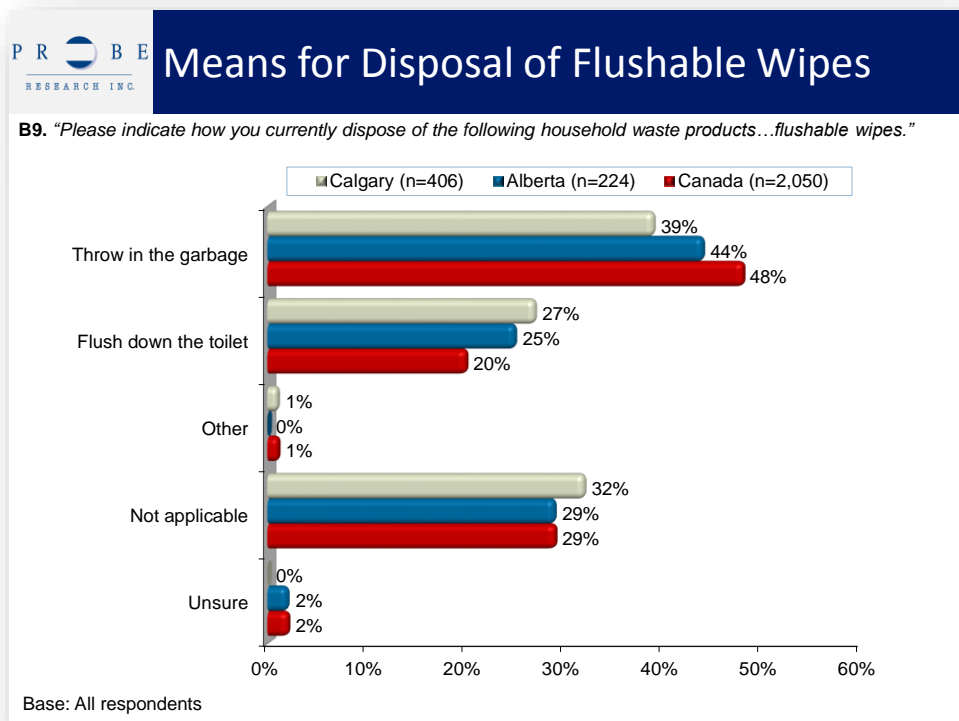
- In the City of Calgary, men tended to express higher levels of awareness of ways they can protect source waters than women (67% versus 56% “aware”).
- Residents of the southwest quadrant of the City of Calgary were more likely to be aware of ways their households can protect source waters (69% “aware”) than those residing in the northwest quadrant of the City (54% “aware”).
- Awareness of source water protection methods was higher in the City of Calgary (61%) than in Alberta (48%) or Canada (42%) overall.
- Online information seekers (78%) and *Committed Conservationists* (76%) were particularly aware of their options for saving water.

3.5.6 Common Practices for Disposing of Household Waste Materials

The research examined common practices for disposing of several household waste materials including flushable wipes, unused or expired pharmaceuticals and fats, oils or greases. Below is an examination of these practices among residents of the City of Calgary compared to Albertans and Canadians overall.

Comparative Look at Disposal of Flushable Wipes

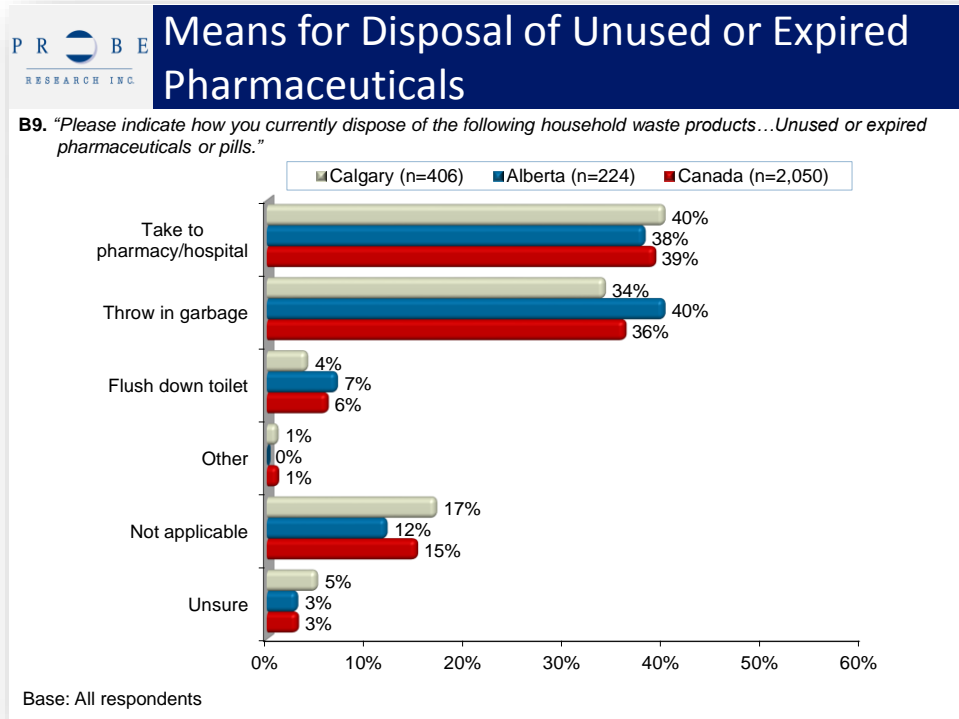
A comparative look at how households dispose of flushable wipes reveals that while most Calgary residents *throw these items in the garbage* (39%), over one-quarter of respondents said they *flush them down the toilet* (27%). One-third of Calgary residents (32%) said this was *not applicable* for them.



- Among Calgary residents, the likelihood of *flushing wipes down the toilet* was twice as prevalent among younger residents aged 18 to 34 years compared to those aged 55 years and over (38% versus 19% respectively).
- A significant proportion of Calgary residents typically dispose of flushable wipes by *flushing them down the toilet* (27%), similar to what was found in Alberta (25%) and just slightly higher than what was reported nationally by Canadians overall (20%).

Comparative Look at Disposal of Unused or Expired Pharmaceuticals

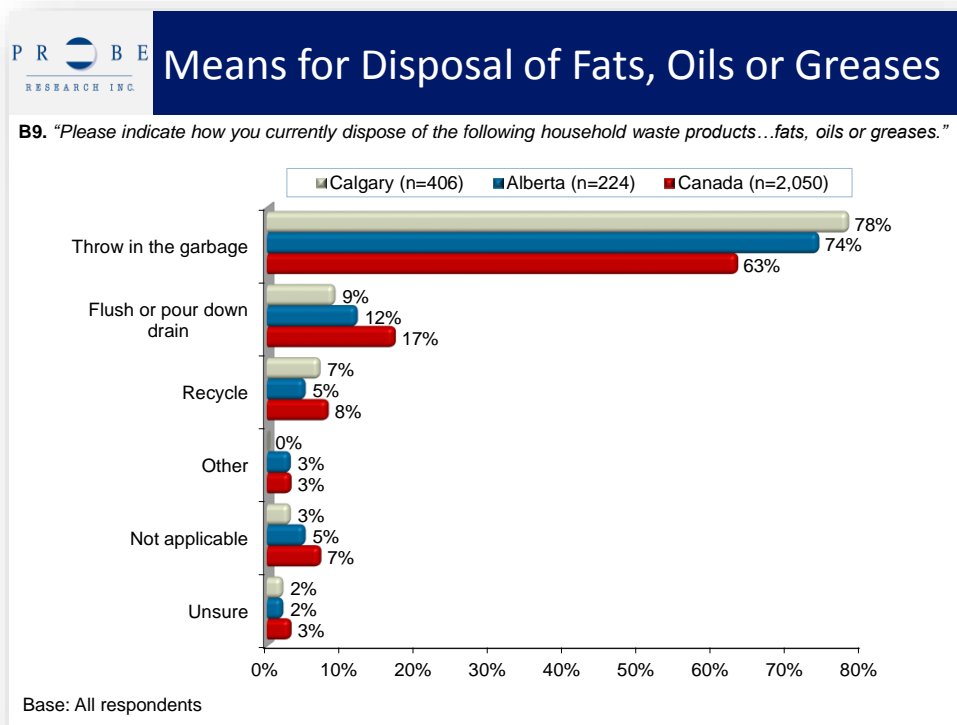
The disposal of unused or expired pharmaceuticals is typically carried out by a relatively equal proportion of Calgary residents either taking them to a pharmacy or hospital (40%) or by throwing them in the garbage (34%). A small proportion of respondents indicated that they typically *flush them down the toilet* (4%). One-in-six Calgary residents (17%) said this was *not applicable* for them.



- Older Calgarians aged 55 years and over were three times more likely to bring their *unused or expired pharmaceuticals or pills to the pharmacy or hospital* than younger residents aged 18 to 34 years (62% versus 21% respectively).
- Conversely, younger Calgarians aged 18 to 34 years were more than twice as likely to *throw unused or expired pharmaceuticals or pills in the garbage* as compared to their more senior counterparts aged 55 years and over (49% versus 21% respectively).

Comparative Look at Disposal of Fats, Oils or Greases

An examination of common household practices for disposing of fats, oils and greases shows that more than three-quarters of Calgary residents *throw these items in the garbage* (78%). Around one-in-ten residents *flush them down the toilet* (9%) while just slightly fewer (7%) noted that they typically *recycle* any fats, oils or greases generated by their households. Three percent of Calgary residents said this was *not applicable* and two percent expressed *uncertainty* in this regard.



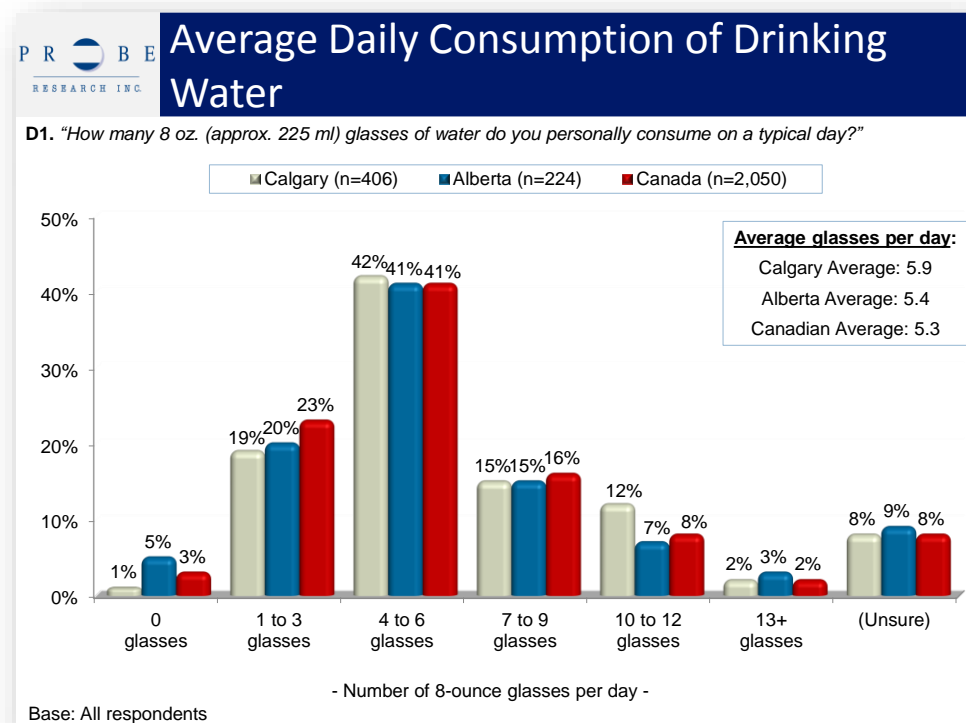
- It is encouraging to note that Calgary residents are significantly less likely to *flush or pour fats, oils and greases down the sink* than Canadians overall (9% versus 17% respectively).

3.6 Current Consumption Patterns

The study now turns to drinking water consumption in the City of Calgary: Patterns of tap water, bottled water and residentially treated tap water consumption are charted as well as a summary of average daily drinking water intake across different segments of the populace are included here.

3.6.1 Drinking Water Consumption Patterns

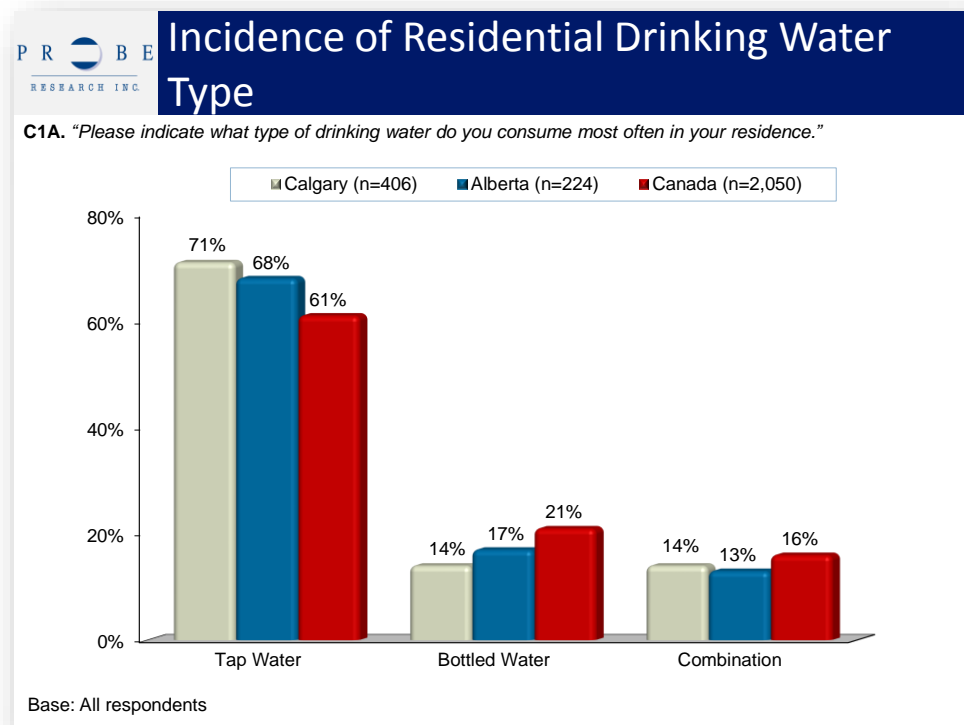
The typical adult residing in the City of Calgary consumes the equivalent of four to six glasses of water per day (42% of the populace falls within this range, with the average adult consuming 5.9 glasses/day). Substantial minorities reported consuming slightly less water (19% consume “one to three glasses”) or slightly more (29% consume “seven or more glasses”). One percent of Calgary respondents said they do not drink any water.



- Daily drinking water consumption was higher among men than women (averaging 6.2 versus 5.6 glasses per day respectively).
- Average daily drinking water consumption was lower among senior Calgary residents aged 55 years and over (averaging 5.0 glasses per day) compared to middle aged residents aged 35 to 54 years (6.1 glasses per day) and 18 to 34 year olds (averaging 6.3 glasses per day among this cohort).
- On average, higher income households earning \$75K or more drink more water each day compared to their less affluent counterparts (averaging 6.1 glasses per day as compared to 5.7 glasses per day among households earning between \$40K to \$74K annually and 5.0 glasses per day among households earning less than \$40K annually).

3.6.2 Primary Residential Drinking Water Supply Source

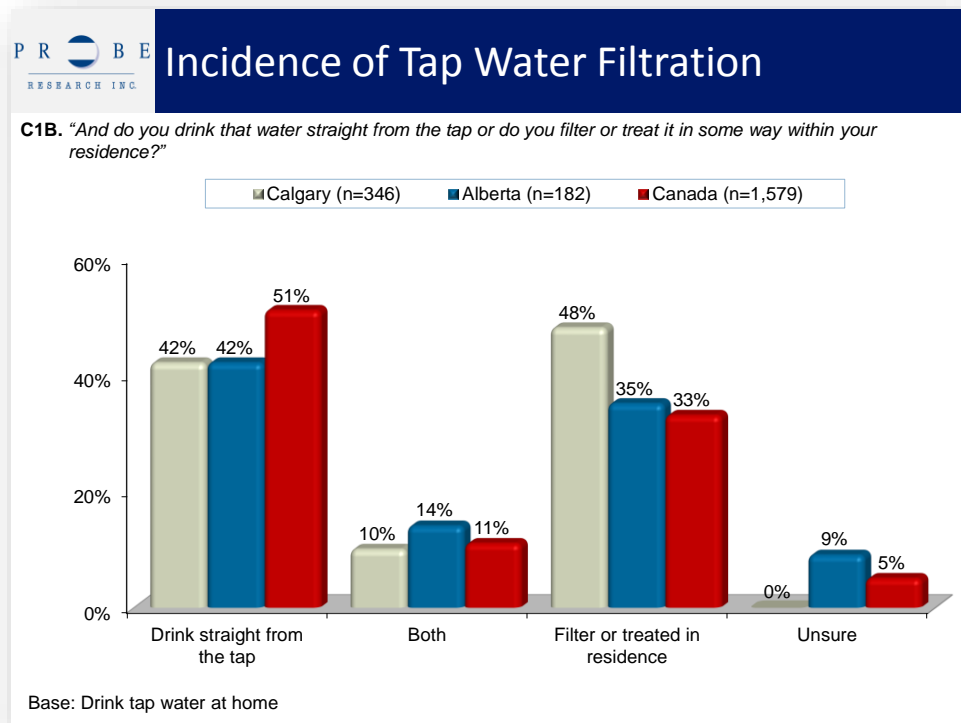
Seven-in-ten Calgary residents reported that *tap water* is their primary source of drinking water (71%), well exceeding the percentages who reported *bottled water* or a *combination of both tap and bottled water* (14% each) as their main drinking water source.



- Respondents with a high school education or less were more likely than average to report that they drink mainly bottled water in their homes (26% versus 11% among graduates of a post-secondary institution).
- Individuals who drink at least some bottled water were also more likely than average to report drinking mostly bottled water at home (28% versus 14% respectively).

3.6.3 Incidence of Tap Water Filtration

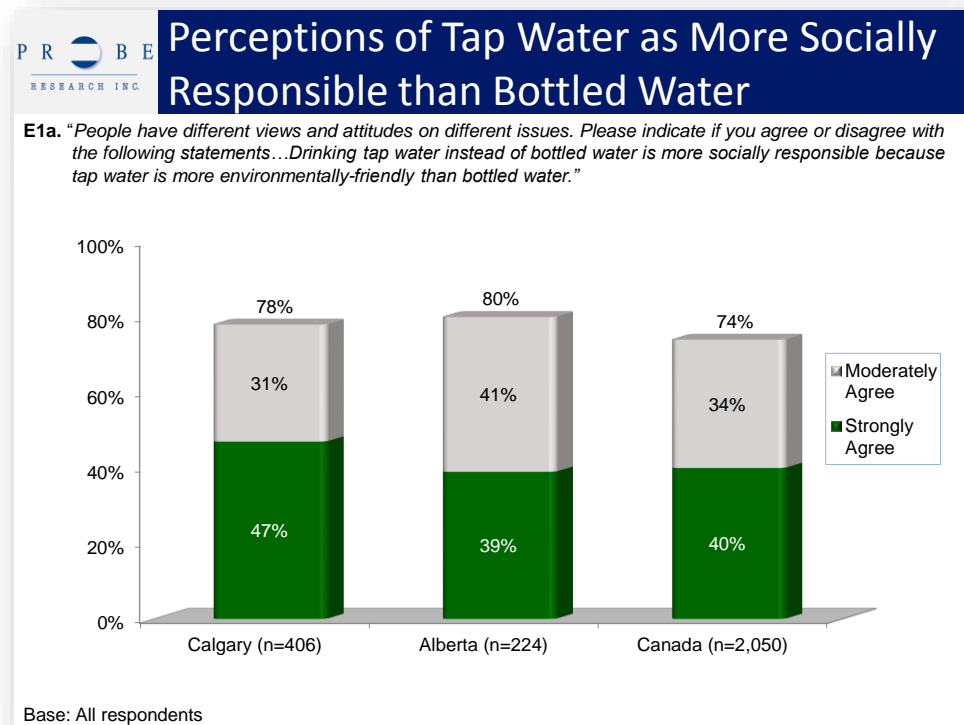
Nearly one-half of Calgary tap water drinkers reported that they *filter or treat* their tap water in the home (48%) while two-in-five (42%) drink this water directly *from the tap*. One-in-ten Calgary residents drink a combination of the two (10%).



- There was little variation in the results among survey sub-populations.

3.6.4 Perceptions of Tap Water as More Socially Responsible than Bottled Water

More than three-quarters of Calgary residents agreed (78%, including 47% who “strongly agree”) that drinking tap water is more socially responsible than drinking bottled water because of the latter’s negative environmental impacts. Only one-in-eight disagreed with this judgment (13%, including 4% who “strongly disagree”).



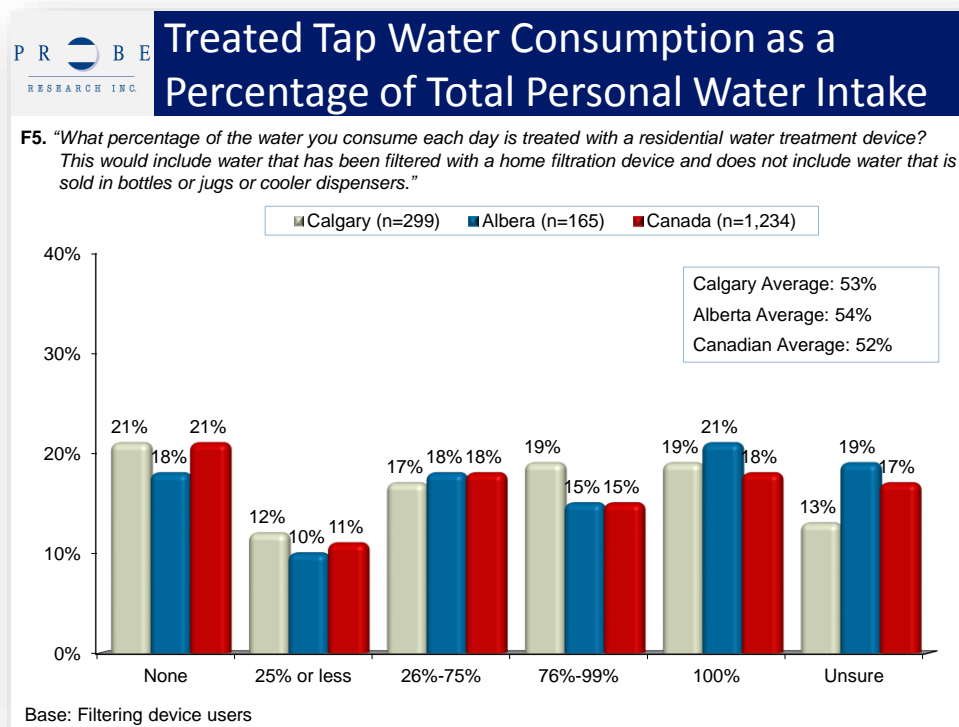
- The view that it is more socially responsible to drink tap water than bottled water was more prevalent among Calgary residents earning \$75K or more annually (85% “agree”) than among households earning \$40K to \$74K annually (74% “agree”) or those earning less than \$40K annually 71% “agree”).
- Close to nine-in-ten Calgary residents who drink mostly tap water at home agreed that drinking tap water was more socially responsible than drinking bottled water (87% “agree”)

3.7 Residential Water Treatment Devices

This section of the report examines the extent to which Calgary residents rely on treated tap water for their daily needs and explores the type of water treatment equipment present in area homes. The rationale for purchasing various home water treatment products is also documented below.

3.7.1 Treated Tap Water Consumption as a Proportion of Daily Drinking Water Intake

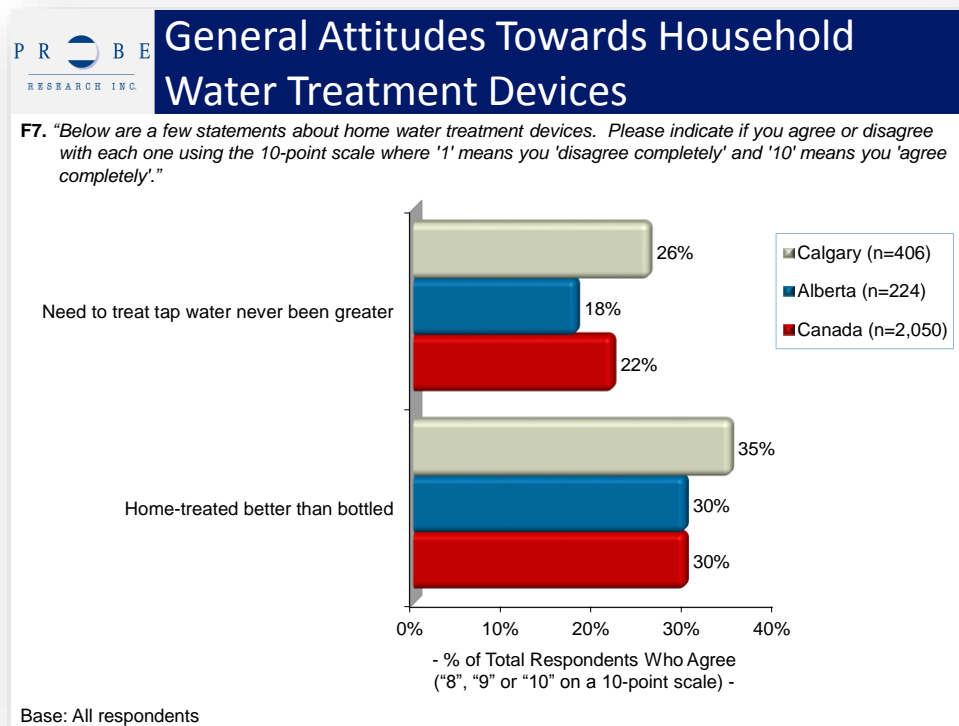
Among those who own a residential water treatment device, over one-third of Calgarians reported that residentially-filtered accounts for either *all* (19%) or a great deal of their daily water consumption (19% consume 76 percent to 99 percent of their water through a residential water treatment device). Another one-third of device owners reported that this residentially-treated water accounted for either *none* (21%) or only a small proportion (12% said residentially-filtered water represents 25 percent or less) of their daily drinking water intake.



- *Bottled Water Drinkers* were less likely than the national average to report drinking exclusively residentially-treated tap water (only 9% reported that residentially-treated tap water accounted for "100 percent" of their daily drinking water intake).

3.7.2 General Attitudes Towards Residential Water Treatment Devices

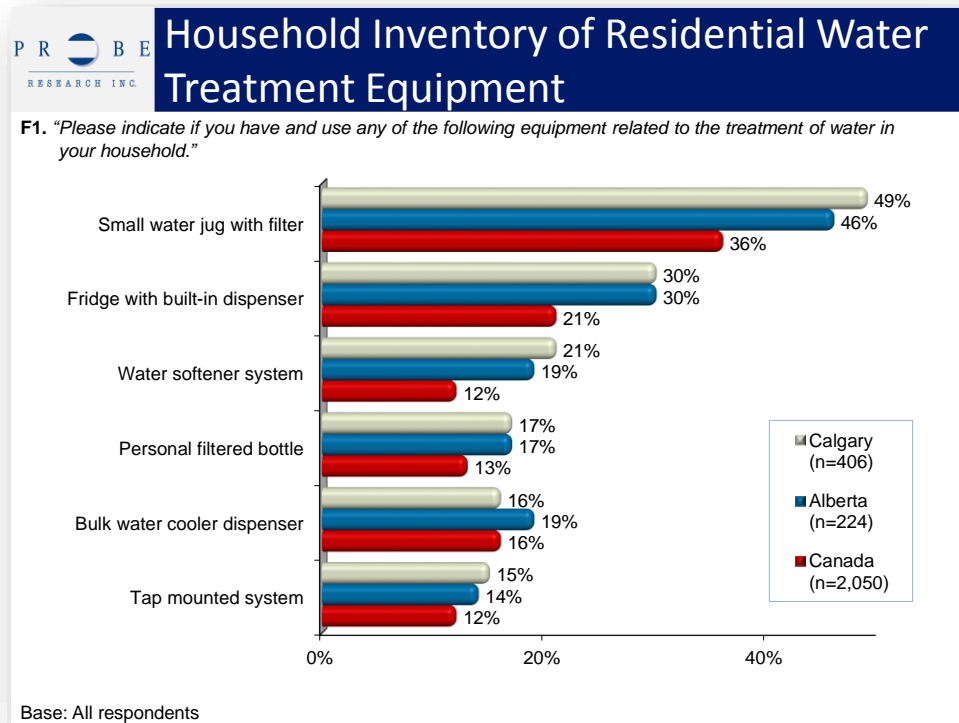
The study examined the perceived urgency to treat tap water and gauged residents' perceptions that home-treated water is preferable to bottled water. Roughly one-quarter of Calgary residents (26%) agreed that *the need for treating tap water has never been greater*, while a similar proportion of residents disagreed with the statement (27%). Meanwhile, one-third of Calgarians (35%) agreed that *home-treated water is better for you than bottled water*, whereas only 14 percent of Calgarians did *not* concur with this latter statement.



- A smaller than average proportion of *Committed Conservationists* disagreed that that the need for treating tap water has never been greater (15% "disagree").
- The belief that *home treated water is better for you than bottled water* was more prevalent among *Committed Conservationists* and *Online Info Seekers* (48% each "agree").

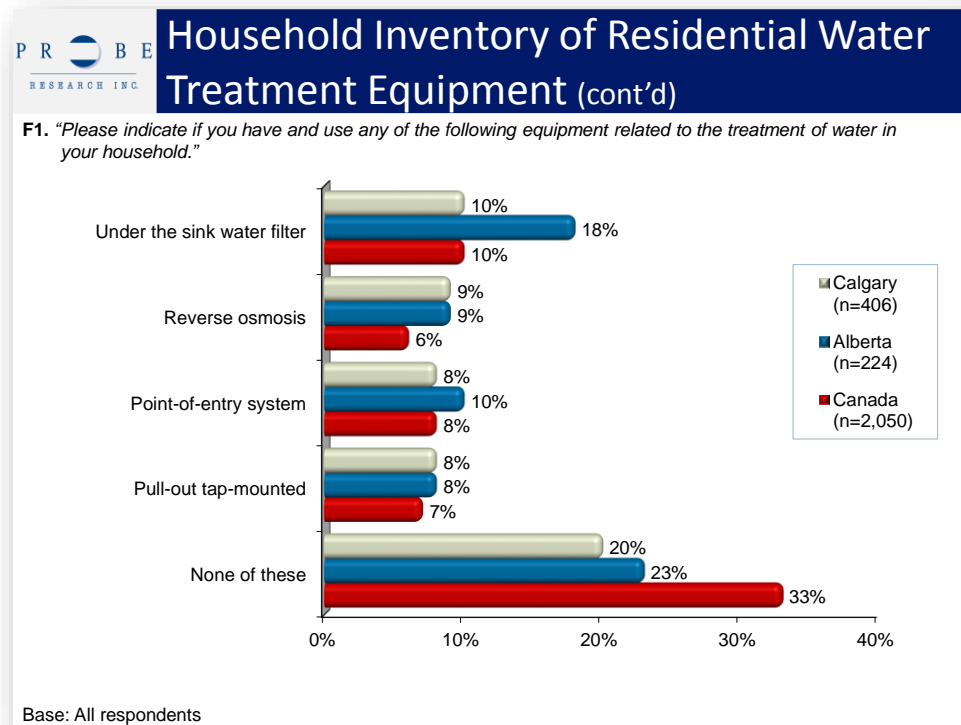
3.7.3 Household Inventory of Residential Water Treatment Equipment

The most popular type of water treatment device that was present in one-half of Calgary homes (49%) was the *small water jug with filter* while three-in-ten Calgary households (30%) report owning a *fridge with built-in dispenser*. Roughly one-fifth of residents (21%) have a *water softener* while just slightly fewer residents possess a *personal filtered bottle* (17%), a *bulk water cooler dispenser* (16%) and/or a *tap-mounted water treatment system* (15%).



- Two-thirds of Water Treatment Device Owners in Calgary own a *water jug/pitcher with filter* (64%).
- Calgary residents living in an apartment or condominium were also more apt to have a *water jug/pitcher with filter* (63%).

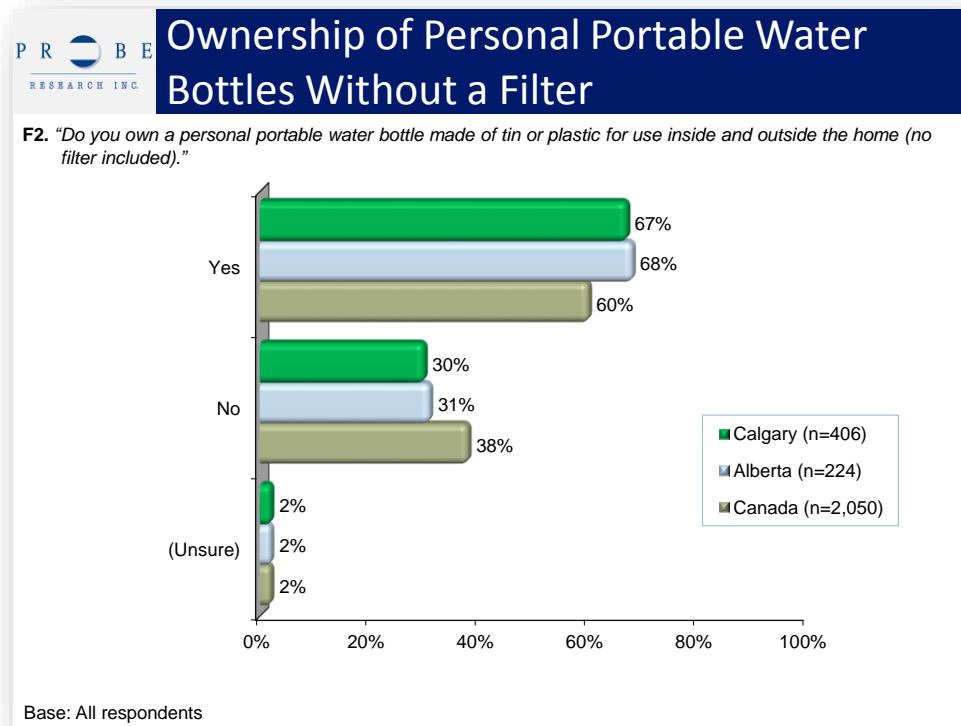
This second graph supplements the first above by showing the incidence of less commonly used household water treatment equipment such as under-the-sink filters, point-of-entry systems and reverse osmosis systems.



- There were no significant variations in responses among survey sub-populations.

3.7.4 Ownership of Personal Portable Water Bottles Without a Filter

Two-thirds of adults in the City of Calgary (67%) reported owning a personal portable water bottle with no filter for use inside and outside of the home. This is almost identical to the results for Alberta (68%) and slightly higher than the national average (60%).

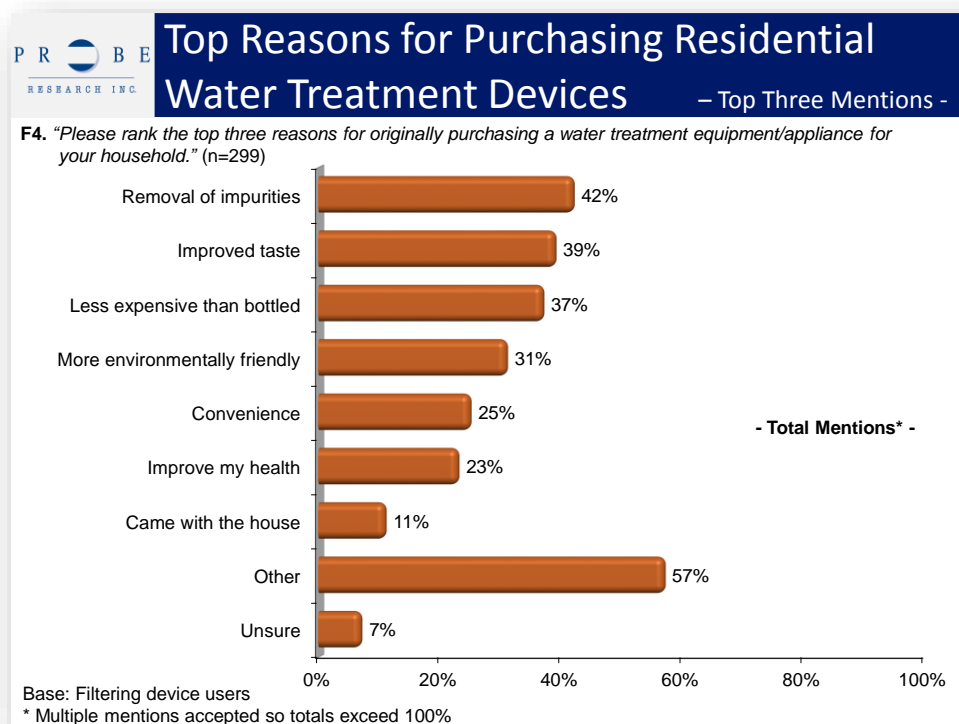


- Women were more likely than men to own a personal, portable water bottle or reusable bottle without a filter (71% versus 64%).

3.7.5 Primary Reasons for Purchasing Residential Water Treatment Devices

Among owners of residential water treatment devices in the City of Calgary, the leading reasons for purchasing these units were to *remove impurities* (42%), to *improve the taste* of their household's drinking water (39%) or because it was felt that residentially-treated tap was *less expensive than bottled water* (37%).

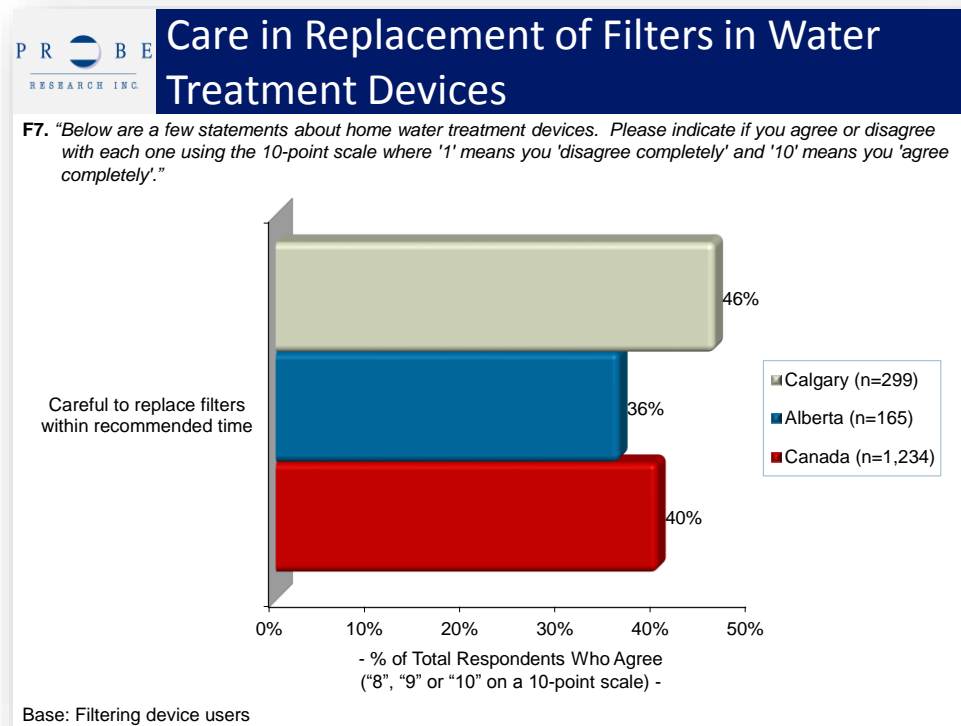
Other less common reasons specified by Calgary respondents are also noted in the graph below.



- There were no significant variations in responses among survey sub-populations.
- Because the wording of this question was slightly different from the national questionnaire, no comparative provincial or national data is shown here.

3.7.6 Care in Replacement of Filters in Water Treatment Devices

Based on a rating of “8” or higher on a 10-point scale, roughly one-half of *Residential Water Treatment Device Owners* in the City of Calgary (46%) are careful to replace the filters in their water treatment devices within the recommended time.



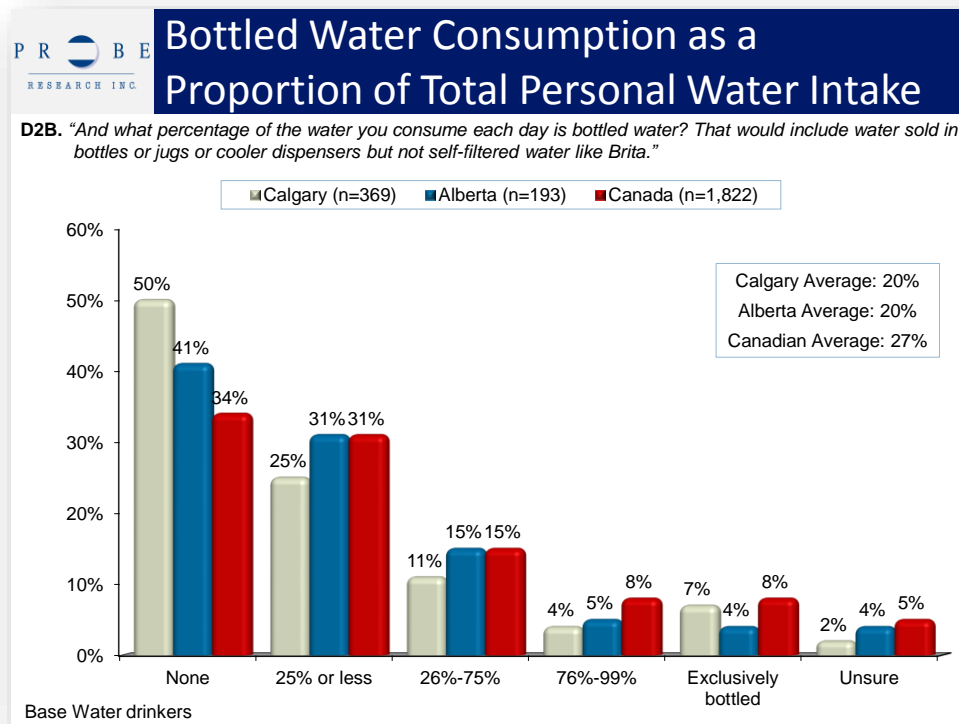
- *Online Info Seekers* and *Committed Conservationists* were slightly more likely than average to be compliant with the recommended timelines for replacing water filters (65% and 60% “agree” respectively).

3.8 Bottled Water Consumption

Consumers' preferences for different types of bottled water and key factors driving purchasing decisions are examined in this section of the report. In addition, general attitudes regarding bottled water are explored below.

3.8.1 Bottled Water as a Proportion of Total Water Consumption

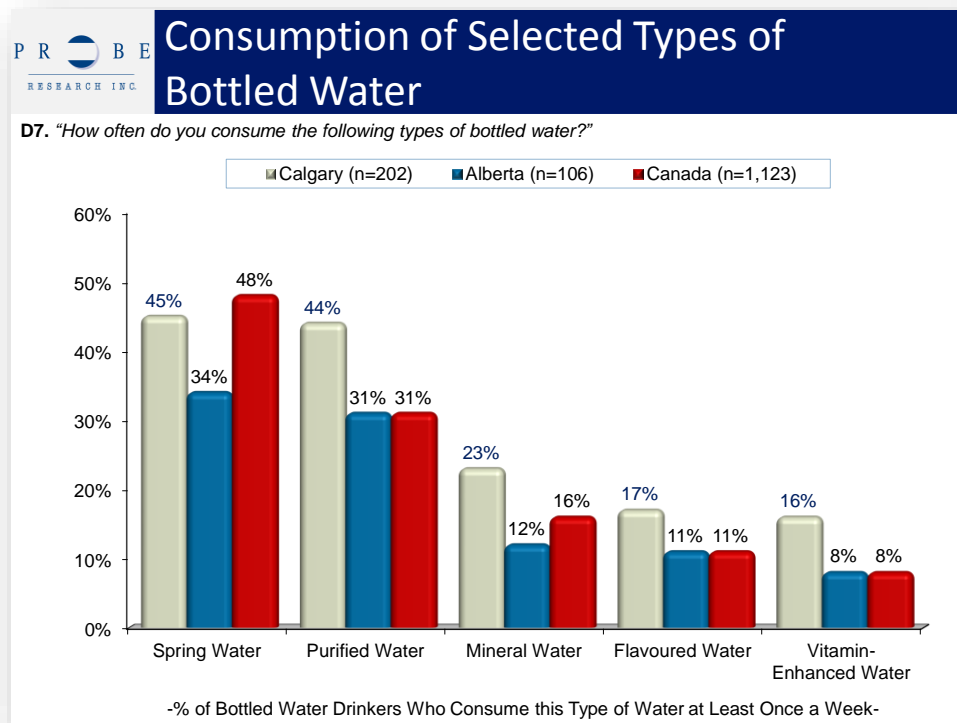
Although many Calgary water drinkers consume bottled water on a regular basis, few of them reported that this accounts for *all* (7%) or the vast majority of their water consumption (only 4% reported that 76 percent to 99 percent of their daily water consumption consists of bottled water). For three-quarters of Calgary water drinkers, bottled water accounted for either *none* (50%) or 25 percent or less of their daily water consumption (25%).



- One-in-six *Bottled Water Drinkers* in the City of Calgary reported that all the water they drink is bottled water (16%).
- Two-thirds of those who drink primarily tap water at home reported that they do not drink bottled water at all (65%).

3.8.2 Frequency of Consumption of Different Types of Bottled Water

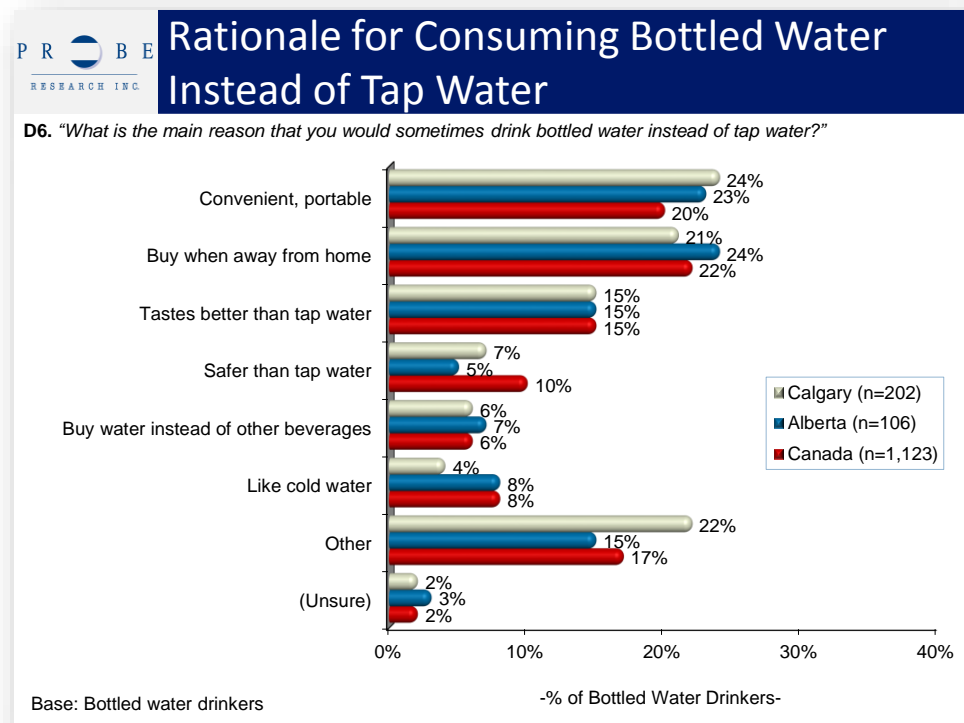
Spring Water is consumed either on a *daily* or *weekly* basis by close to one-half of bottled water drinkers (45%) in the City of Calgary while a similar proportion of bottled water drinkers consume *Purified Water* either *daily* or *weekly* (44%). While these two types of bottled water dominate the bottled water market in Calgary, other types of bottled water such as *Mineral Water* (23%), *Flavoured Water* (17%) and *Vitamin-Enhanced Water* (16%) are also popular, though somewhat less likely to be consumed on a *daily* or *weekly* basis.



- One-half of Calgary youth aged 18 to 34 years drink *Purified Water* at least once a week (49%).
- Four-fifths of older Calgary residents aged 55 years and over reported that they *never* drink *Vitamin-Enhanced Water* (83%) while roughly two-thirds of this same age cohort indicated that they *never* drink *Mineral Water* (65%) or *Flavoured Water* (61%).

3.8.3 Rationale for Consuming Bottled Water Instead of Tap Water

The leading reasons why Calgary bottled water drinkers prefer this product over tap water are either because the product is *convenient and portable* (24%), they generally *buy bottled water for consumption away from home* (21%) or that it *tastes better than tap water* (15%). Smaller numbers reported that bottled water is *safer than tap water* (7%), that bottled water is a *substitute for other beverages* (6%) or that that they *prefer the colder water* (4%). Other reasons offered up by respondents are outlined in the attached data tables.



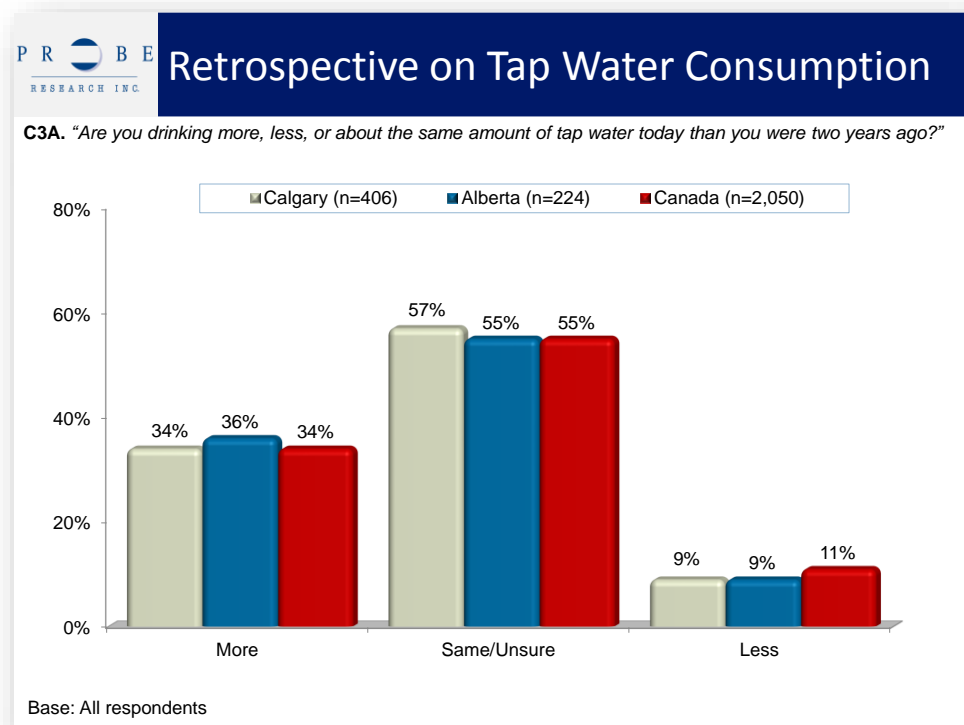
- Men were twice as likely as women to indicate that they purchase bottled water because it is *convenient or portable* (32% versus 16% respectively).
- Households with a high school diploma or less (25%) were more likely to be drawn to bottled water by the *better taste* compared to individuals with a graduate degree (11%).

3.9 Patterns in Household Drinking Water and Beverage Consumption

This section of the report explores changes that have been taking place in recent years in tap and bottled water consumption among Calgarians and examines the reasons underlying those changes.

3.9.1 A Retrospective on Tap Water Consumption

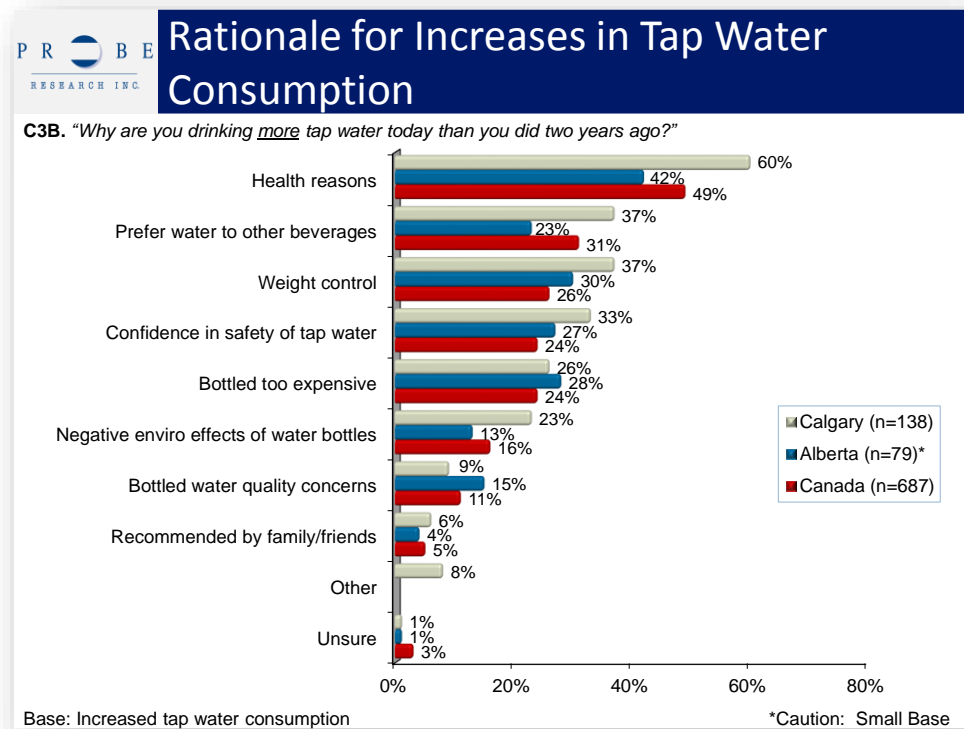
The majority of Calgarians report there has been no significant change in their tap water intake over the past two years (57% “the same” and >1% “unsure”). For one-third of Calgary households, the amount of tap water they drink each day has *increased* in recent years (34%, including 16% who said they now consume “a lot more” tap water). Only a small number of respondents report a decrease in their tap water consumption over the past two years (9%, including 4% who now drink “a lot less” tap water than they did earlier).



- One-third of Calgary residents with some post-secondary education (31%) report that they are now drinking “a lot more” tap water compared to two years ago.
- Lower income residents earning less than \$40K annually were less likely than average to report drinking *the same* amount of tap water today as they did two years ago (38%).

3.9.2 Rationale For Increases in Tap Water Consumption

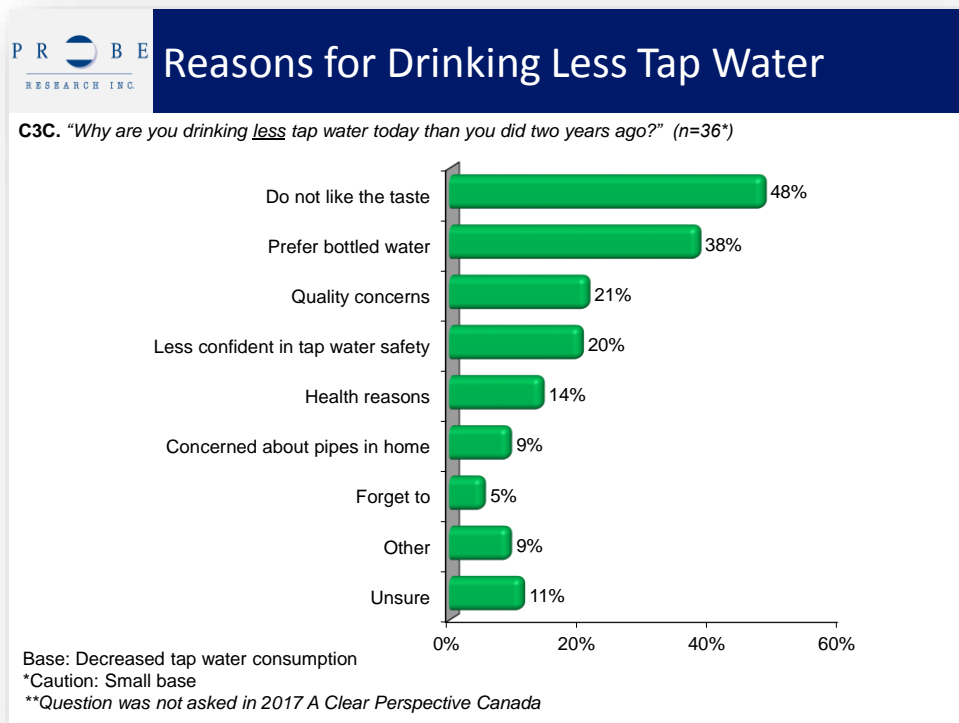
Among those Calgarians who report an increase in their tap water consumption over the past two years, three-in-five (60%) indicate that this change is attributable to *health reasons*. Other significant factors impacting on increased tap water consumption include *preferring water to other beverages* (37%), *weight control* (37%), being *confident in the safety of tap water* (33%) and the *expense of purchasing bottled water* (26%). Other reasons are also shown below and in the attached data tables.



- Calgary residents with some post-secondary education were more likely to cite *confidence in the safety of their tap water* (52%) as a key factor impacting their increased tap water consumption.
- *Weight control* was less likely to be a motivating factor among Calgary respondents with children at home (20%).

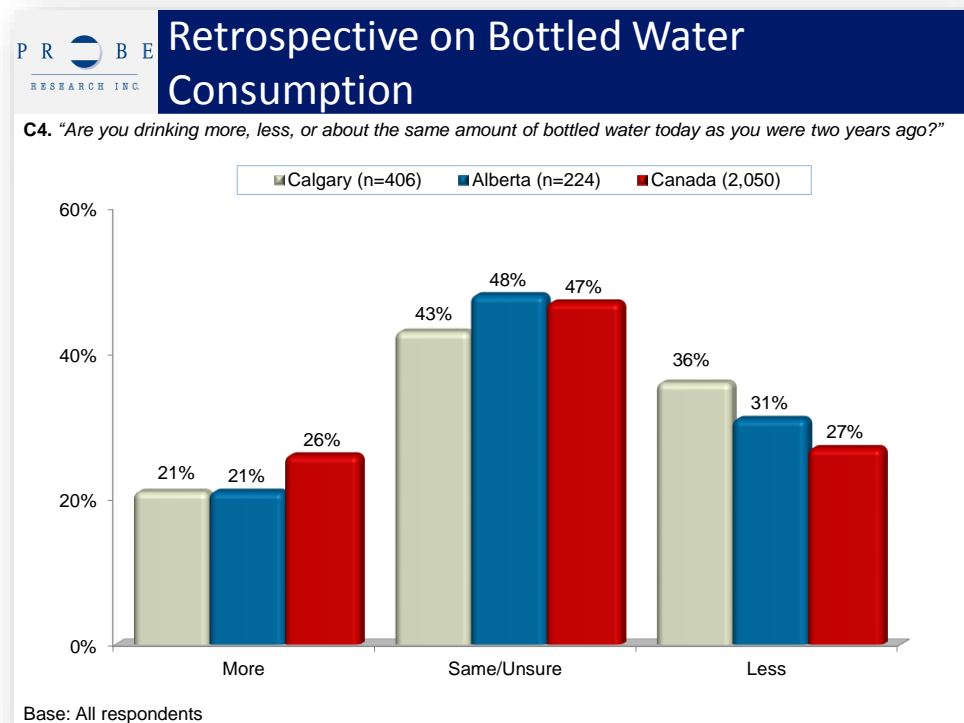
3.9.3 Rationale For Decreases in Tap Water Consumption

One-half of Calgary residents who reported a decrease in their tap water consumption over the past two years said it was because they *did not like the taste of their tap water* (48%). Four-in-ten of these residents said they reduced their tap water consumption because they *prefer bottled water* (38%). Roughly one-fifth of respondents reporting a decrease in tap water consumption said either they had *quality concerns* (21%) or were *less confident in the safety of their tap water* (20%). One-in-seven reduced their tap water consumption for *health reasons* (14%) while one-in-ten residents were *concerned about the pipes in their homes* (9%). Five percent of respondents admitted they simply *forgot to drink tap water* while one-tenth expressed *uncertainty* in this regard (11%).



3.9.4 A Retrospective on Bottled Water Consumption

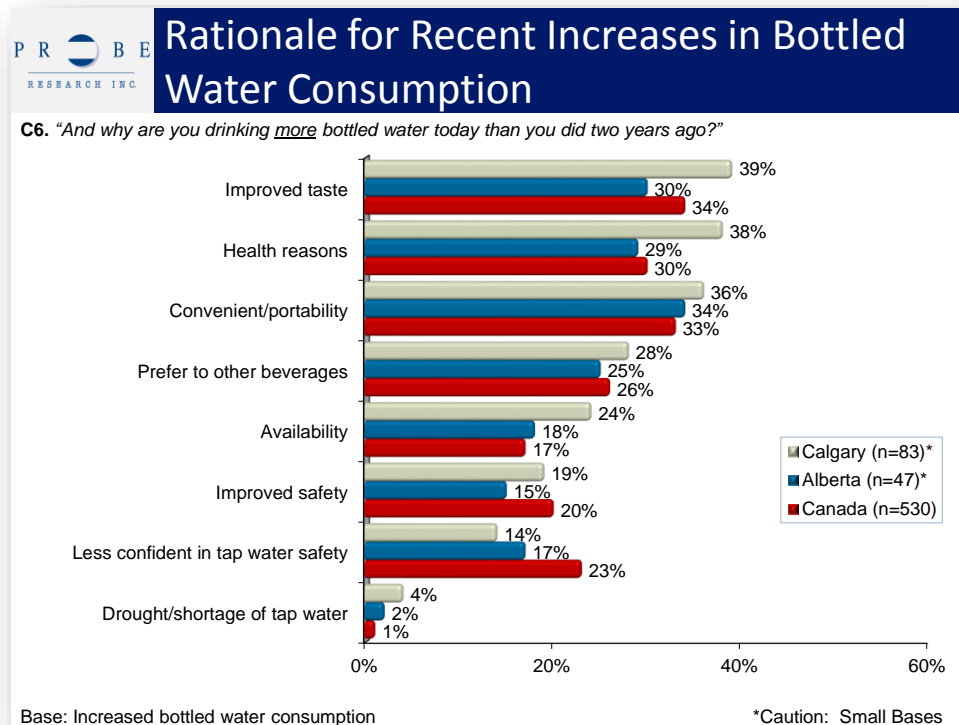
While Calgary residents were three times more likely to report *increased* rather than *decreased* tap water consumption over the past two years (34% versus 9% respectively), the picture is quite different when it comes to bottled water: Calgary residents were more likely to report a *decrease* in their bottled water consumption (36% “less”, including 21% “a lot less”) instead of an *increase* (21% “more”, including 7% “a lot more”). Meanwhile, two-in-five Calgary residents (43%) reported no significant change in their bottled water consumption over the past two years.



- Younger adults in Calgary aged 18 to 34 years were much more likely to report a *decrease* rather than an *increase* in their bottled water consumption over the past two years (42% “less” versus 24% “more”).
- Middle-aged Calgary residents aged 35 to 54 years were also much more likely to report a *decrease* rather than an *increase* in their bottled water consumption over the past two years (35% “less” versus 18% “more”).

3.9.5 Rationale for Recent Increases in Bottled Water Consumption

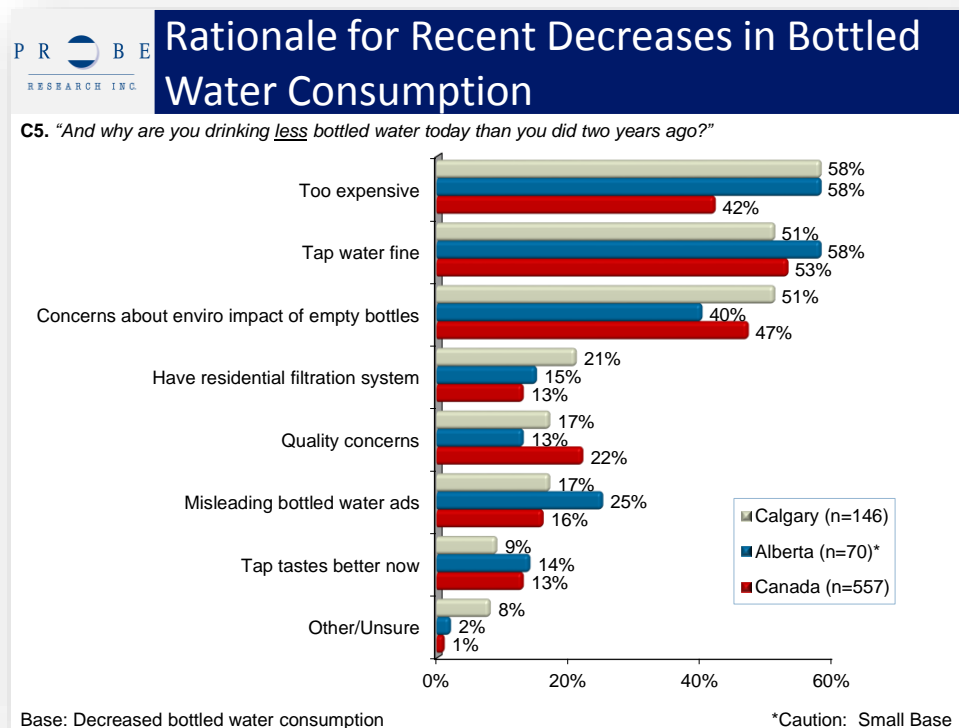
A variety of reasons were offered by those Calgary residents who reported a recent *increase* in their bottled water consumption. These included *better taste* (39%), *health reasons* (38%), *convenience and portability* (36%), *preferring bottled water to other beverages* (28%), *availability* (24%), *improved safety* (19%), and being *less confident in the safety of tap water* (14%).



- While one-half of younger Calgary residents aged 18 to 34 years (48%) cited the *improved taste* of bottled water as a key motivator for their increased bottled water consumption, a similar proportion of older residents aged 55 years and over (49%) explained that their increased bottled water consumption was mainly motivated by *health reasons*.

3.9.6 Rationale for Recent Decreases in Bottled Water Consumption

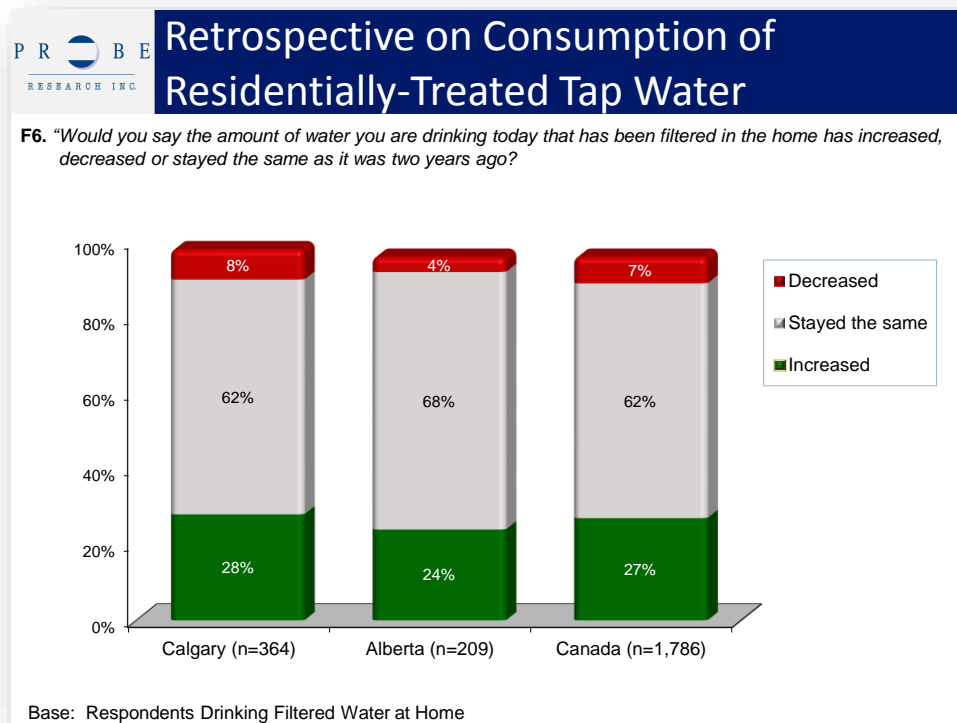
Among those Calgary who drink *less* bottled water today than they did two years ago, over one-half noted this was because bottled water is *too expensive* (58%). One-half of Calgary residents reported that either *tap water is fine* for their needs or that they were concerned of the *negative environmental impact* of discarded bottles (51% each). Secondary reasons include *bought a residential filtration system* (21%), *bottled water quality concerns* (17%), *misleading information* in bottled water ads (17%) and the view that *tap water tastes better now* (9%).



- Residents of Calgary that drink at least some bottled water were more likely to have decreased their bottled water consumption due to *concerns about the environmental impact of empty bottles* (71%).
- Two-thirds of younger adults aged 18 to 34 years who reported a decrease in their bottled water consumption (67%) pointed to the fact that bottled water was *too expensive* whereas only one-half of middle-aged residents aged 35 to 54 years (50%) said this was a key factor affecting their reduced bottled water intake.

3.9.7 Retrospective on Consumption of Residentially-Treated Tap Water

Three-in-five Calgary residents that drink filtered water in their homes report that there has been no meaningful change in their consumption of home-filtered drinking water over the past two years (62% reported their consumption is “the same”). One-quarter of residents, however, have reported increases in consumption of residentially-treated tap water (28%). This greatly outnumbers those reporting decreases in consumption of residentially-filtered water over the past two years (8%) or those expressing uncertainty in this regard (3% “unsure”).



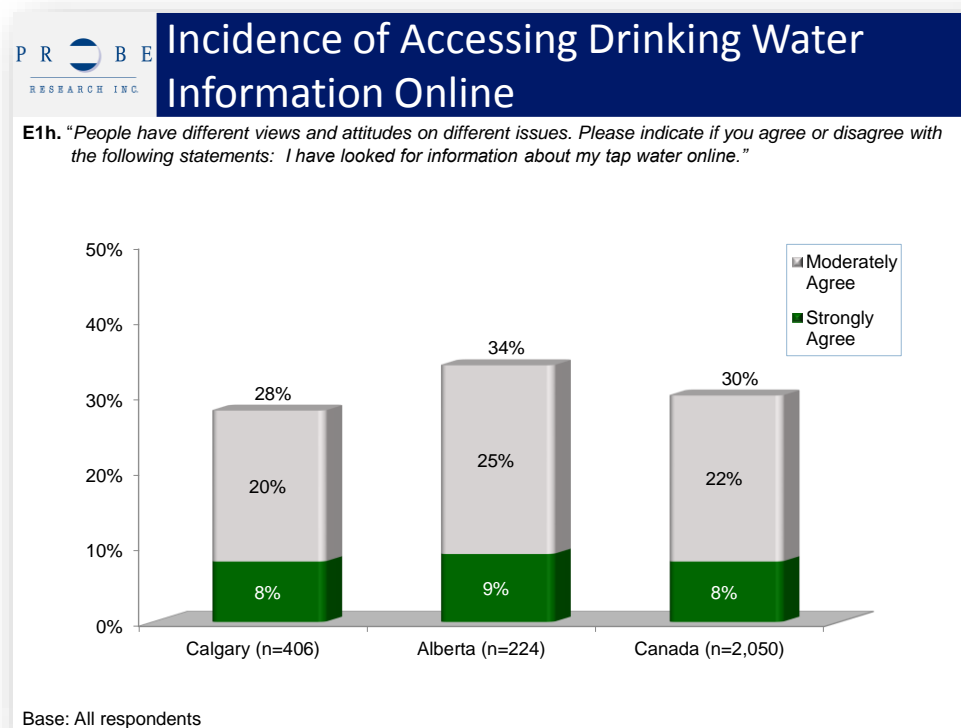
- Around one-half of renters in the City of Calgary said their consumption of residentially-filtered drinking water has *remained the same* as it was two years ago (47%) compared to two-thirds of Calgary respondents who own their home (67%).

3.10 Communication Issues

This final report section reviews sources from which Calgary residents receive information about their household water supply and identifies residents' specific unmet information demands.

3.10.1 Current Online Sourcing of Drinking Water-Related Information

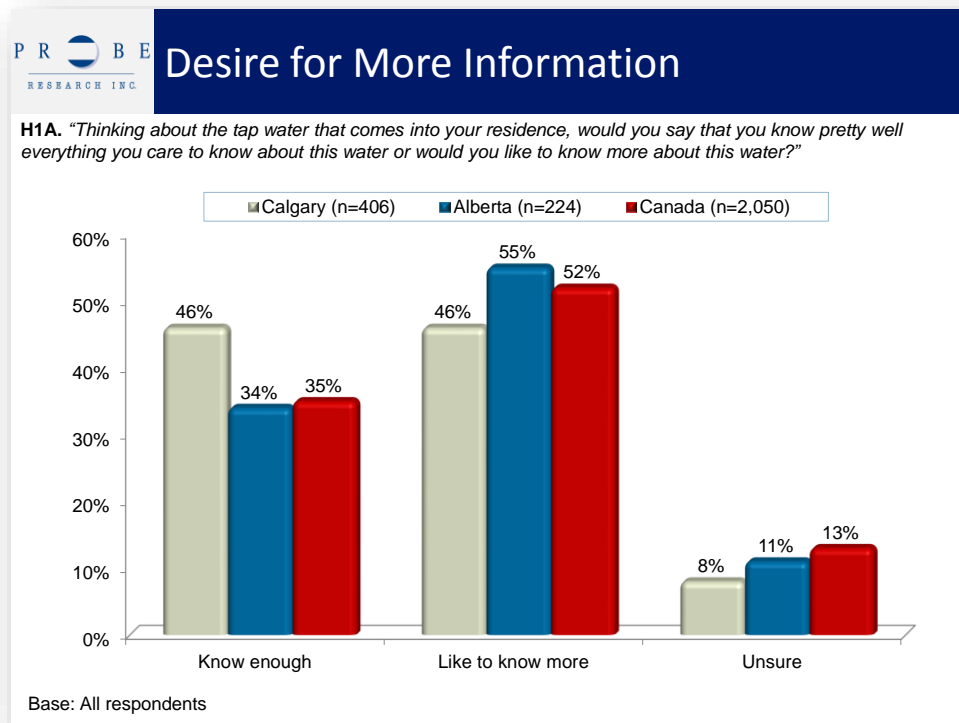
Two-thirds of Calgary residents (66%) reported that they have *not* looked for and read tap water-related information electronically while three-in-ten households have done so (28%). Six percent of residents expressed uncertainty in this regard.



- Men were more likely than women to have sought tap water-related information online (35% versus 21% "agree" respectively).
- Younger adults aged 18 to 34 years (34% "agree") were more likely to seek information online than were older adults aged 55 years and over (18% "agree").
- *Committed Conservationists* were more likely to have sought out tap water-related information online (40% "agree").

3.10.2 Information Deficits

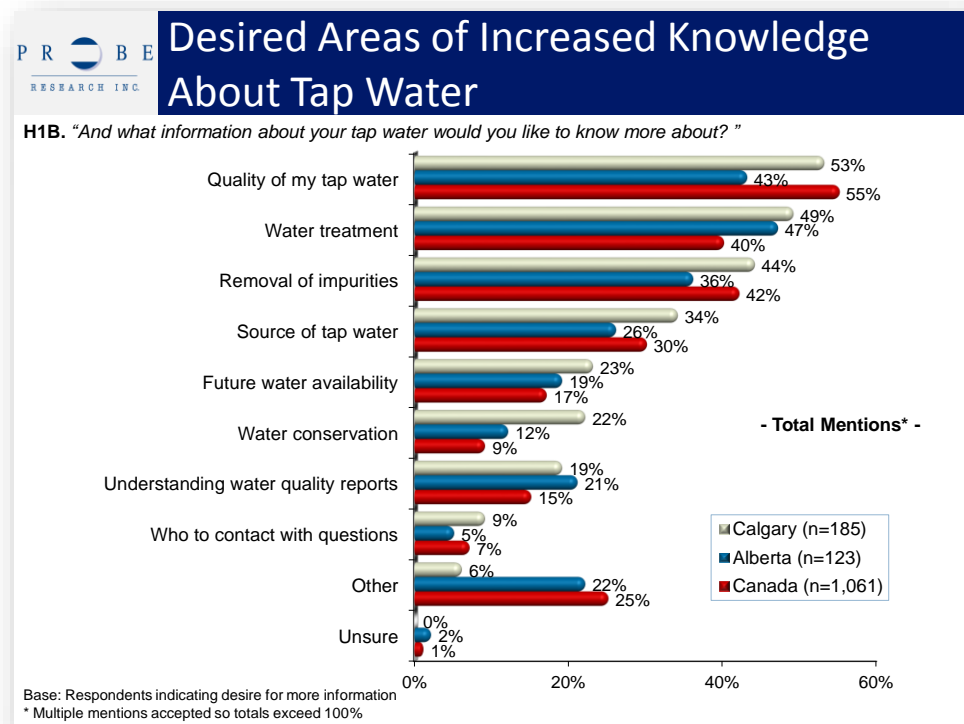
Calgary residents were equally split between those who acknowledged that they would *like to know more* about the tap water that comes into their residence and those who report they *already know enough* about this water (46% each).



- Calgary residents with some post-secondary education were almost twice as likely as those with a high school diploma or less to be satisfied with their knowledge about their tap water supplies (64% versus 33% "know enough" respectively).
- The thirst for greater knowledge about tap water supplies was more evident among younger Calgarians aged 18 to 34 years compared to those aged 55 years and over (58% versus 36% who would "like to know more").

3.10.3 Desired Areas of Increased Drinking Water Knowledge

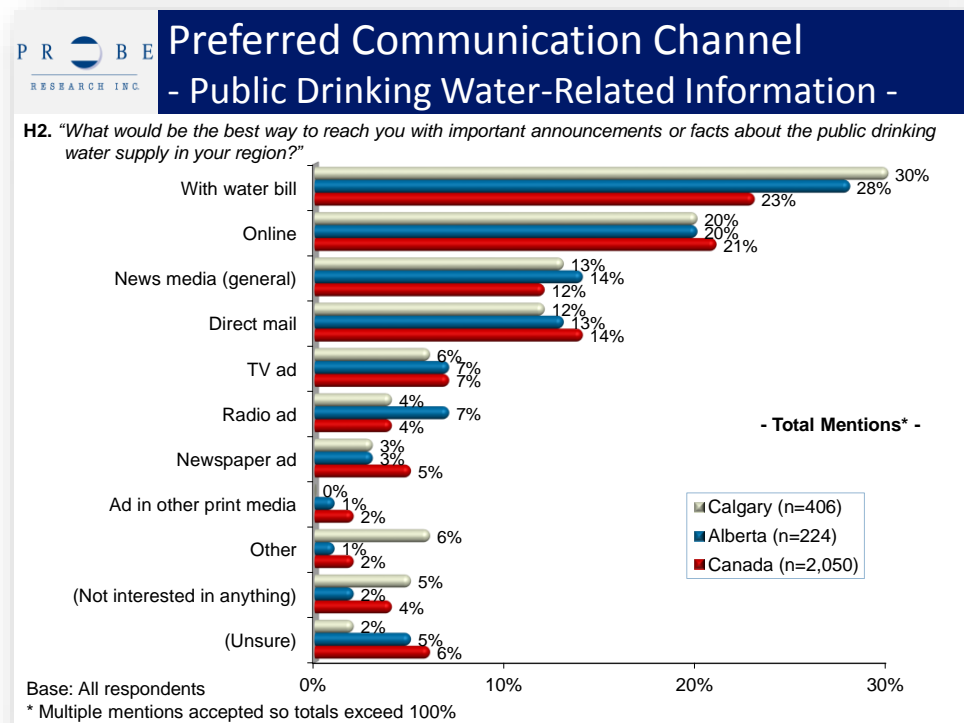
Among those Calgary residents who expressed a desire to learn more about their tap water, the greatest levels of interest were shown in learning about *the quality of tap water supplies* (53%), *how the water is treated* (49%) and *how impurities are removed* (44%). Other information desired by smaller numbers of respondents included learning about *the source of tap water* (34%), *future water availability* (23%), *water conservation* (22%) and *understanding water quality reports* (19%). Information pertaining to other topic areas that were each mentioned by fewer than one-in-five respondents are shown below and in the attached data tables.



- Younger Calgarians aged 18 to 34 years were more likely than their older counterparts to wish to know more about *the source of their tap water* (49% versus 22% among those aged 35 to 54 years and 25% among those aged 55 years and over).
- *Water conservation* was more likely to be of interest to residents with children at home (39%).

3.10.4 Preferred Method of Communication About Drinking Water

Calgarians predominantly identified *water bills* (30%) and *online sources* (20%) as being the preferred means by which to reach them with important announcements or facts about their local water supply. Secondary options for reaching consumers included *news media* (13%) and *direct mail* (12%). Other potential sources of information were each mentioned by fewer than one-in-ten respondents.



- Renters were three-times less likely to identify their *water bill* as an effective means of communicating drinking water-related information than those living in single family dwellings (14% versus 36% respectively).
- Including information *with the water bill* was also considered a less effective way of reaching younger Calgarians aged 18 to 34 years (17%).
- This younger cohort aged 18 to 34 years was much more likely to favour *online* communications about their tap water (31% versus 17% among 35 to 54 year olds and 13% among those aged 55 years and over).

APPENDIX A:

Questionnaire

CITY OF CALGARY DRINKING WATER SURVEY 2017- QUESTIONNAIRE FOR SCRIPTING ONLINE

SECTION A - Introduction

We hope you will take a few minutes to participate in our research today on Canadians and their drinking water.

SCREENERS:

Before we begin, a bit about yourself:

(WATCH QUOTAS)

1. Please indicate your gender: (50/50)

Male

Female

Other (Specify if you wish) _____

2. Which category best represents your age? (33/33/33)

18-34

35-54

55+

4. What is your Postal Code: (eg. T1Y 1K2) (SCRIPT: ENSURE THE PC ALIGNS WITH THE CALGARY CMA, OTHERWISE THANK AND TERMINATE)

____ _

SECTION B - Awareness and Treatment

- B1. Can you identify the originating source of tap water in your household? That is, do you know where your household tap water comes from before it enters your home?

Yes, Aware01
 No, Unaware02
 Unsure09

- B2. And, to the best of your knowledge, what is the source of the tap water that comes into your household? Is it... **(CHECK ONLY ONE)**

A central town or municipal water supply that services all of the homes in your area01 (Ask next Q)
 A private underground well on your land.....02 (Skip to Q. B6)
 An underground well that you share with a number of neighbours ..03 (Skip to Q. B6)
 Other (specify) _____ 98 (Ask next Q)
 Unsure99 (Ask next Q)

- B3. And, as far as you know, does your municipal water supply originally come from...?
(CHECK ONLY ONE)

A ground water source01
 A lake or river02
 Other (specify) _____ 98
 Unsure99

- B6. (ASK EVERYONE) Please indicate how satisfied or dissatisfied you are with the following aspects of the water that comes into your home. (RANDOMIZE)

		Very Dissatisfied	Somewhat dissatisfied	Somewhat satisfied	Very satisfied	Unsure
a	(Ask Municipal System Users Only) Your ability to clearly understand your water bill and its charges	1	2	3	4	9
b	(Ask Municipal System Users Only) The cost of your tap water	1	2	3	4	9
c	The quality of your tap water	1	2	3	4	9
d	The taste of your tap water	1	2	3	4	9
e	The colour of your tap water	1	2	3	4	9
f	The odour of your tap water	1	2	3	4	9

B7. (ASK MUNICIPAL SYSTEM USERS ONLY) Overall, how satisfied are with your household tap water provider? Would you say you are...

Very dissatisfied01
 Somewhat dissatisfied02
 Somewhat satisfied03
 Very satisfied04
 Unsure99

B9. (ASK EVERYONE) Please indicate how you currently dispose of the following household waste products: (RANDOMIZE)

		Throw in the garbage	Flush down the toilet	Other (SPECIFY)	Not Applicable	Unsure
a	Flushable wipes	1	2	3	4	9
b	Unused or expired pharmaceuticals or pills	1	2	3	4	9
c	Fats, oils and greases (like bacon fat, salad dressing or used cooking oil)	1	2	3	4	9

B11. Source water protection has become an important focus for governments across Canada. Here we are referring to protecting groundwater, lakes and rivers from contaminants. Are you personally aware of some of the ways your household can help to protect source waters in your area?

Yes01
 No02
 Unsure99

B12. Please indicate if you “always”, “sometimes”, “rarely” or “never” engage in the following practices around your home: (RANDOMIZE)

		Always	Sometimes	Rarely	Never	Not Applicable	Unsure
a	Dispose of used oil, old batteries, antifreeze, paints, chemicals and other hazardous waste products at a collection depot	1	2	3	4	98	99
b	Use less or safer alternatives to road salt	1	2	3	4	98	99
c	Limit use of pesticides and fertilizers or use environmentally-friendly pesticides and fertilizers	1	2	3	4	98	99
d	Use environmentally- friendly cleaning products	1	2	3	4	98	99

SECTION C- Trends in Water Consumption

Now moving on to drinking water consumption...

C1a) Please indicate what type of drinking water do you consume most often in your residence:

- Tap water01 (Ask Q. C1b)
 Bottled water.....02 (Skip to Q. C3a)
 C3a)
 Combination of water sources03 (Ask C1b and C3a)
 Don't drink water at all04 (Skip to Q. C3a)
 Other water-type (specify)98 (Skip to Q. C3a)
 Unsure.....99 (Skip to Q. C3a)

C1b) And do you drink that water straight from the tap or do you filter or treat it in some way within your residence?

- Straight from the tap (untreated at home)01
 Filtered or treated within my residence02
 Both.....03
 Unsure.....99

C3a) Are you drinking more, less, or about the same amount of tap water today than you were two years ago?

- A lot more01
 A little more02
 The same03 (Skip to Q. C4)
 A little less04 (Skip to Q. C3c)
 A lot less.....05 (Skip to Q. C3c)
 Unsure.....09 (Skip to Q. C4)

C3b) Why are you drinking more tap water today than you did two years ago? **(CHECK ALL THAT APPLY)**

- Health reasons01(Skip to Q. C4)
 Bottled water too expensive02(Skip to Q. C4)
 Bottled water quality concerns03(Skip to Q. C4)
 Prefer water to other beverages.....04(Skip to Q. C4)
 Weight control.....05(Skip to Q. C4)
 Confident in the safety of my tap water06(Skip to Q. C4)
 Concerned about environmental effects of bottled water07(Skip to Q. C4)
 Recommendations of family/friends or others08(Skip to Q. C4)
 Other (Please specify)98(Skip to Q. C4)
 Unsure.....99(Skip to Q. C4)

C3c) Why are you drinking less tap water today than you did two years ago? **(CHECK ALL THAT APPLY)**

Health reasons.....	01
Don't like the taste of tap water.....	02
Quality concerns.....	03
Prefer bottled water.....	04
Concerned about pipes in my home.....	05
Less confident in the safety of my tap water.....	06
Other (Specify)	98
(Unsure)	99

C4. Are you drinking more, less, or about the same amount of bottled water today as you were two years ago?

A lot more.....	01	(Skip to Q. C6)
A little more	02	(Skip to Q. C6)
The same	03	(Skip to Q. C7)
A little less	04	
A lot less.....	05	
Unsure.....	09	(Skip to Q. C7)

C5. And why are you drinking less bottled water today than you did two years ago? **(CHECK ALL THAT APPLY)**

Bought residential filtration system	01	(Skip to Q. C7)
Concerns about environmental impact of bottled water containers	02	(Skip to Q. C7)
Tap water tastes better now	03	(Skip to Q. C7)
Feel bottled water advertising was misleading.....	04	(Skip to Q. C7)
Too expensive	05	(Skip to Q. C7)
Bottled water quality concerns	06	(Skip to Q. C7)
Tap water just fine	07	(Skip to Q. C7)
Other (SPECIFY).....	98	(Skip to Q. C7)
Unsure.....	99	(Skip to Q. C7)

C6. And why are you drinking more bottled water today than you did two years ago? **(CHECK ALL THAT APPLY)**

Health reasons	01
Improved safety	02
Improved taste.....	03
Less confident in the safety of tap water.....	04
Prefer water to other beverages	05
Convenient/portability	06
Availability	07
Shortage of tap water/drought	08
Other (SPECIFY).....	98
Unsure.....	99

C7. (ASK MUNICIPAL SYSTEM USER ONLY)

Which of the following statements best describes your own views regarding the price you pay for your household water:

I pay a fair price for the water used in my home01
 I pay too little for the water used in my home02
 I pay too much for the water used in my home03
 Unsure.....99

C8a) (Ask Everyone) Thinking about the water you use in your home every day for things such as cooking, washing clothes, taking showers, flushing toilets, or watering gardens,

have you made an effort to reduce the amount of water used by your household?

Yes, I have made a big effort to reduce the amount of water I use at home 01
 Yes, I have made a moderate effort to reduce water usage at home 02
 No, I have not tried to cut back on the amount of water I use at home 03
 Unsure..... 09

C8b) What have you done to reduce outdoor water use around your home? **(CHECK ALL THAT APPLY)**

Water my yard or garden in the evening or early morning 01
 Collect rainwater in a rain barrel or cistern 02
 Installed a "rain garden" 03
 Changed my landscaping to use less water (eg. drought tolerant plants, mulch, rock gardens, etc) 04
 I have not done anything to reduce outdoor water use around my home 05
 Not applicable 97
 Other (specify) _____ 98
 Unsure 99

C8c) (Ask Everyone) Please rank in order of importance, your main reasons for conserving water inside and outside your home? **(RANDOMIZE, accept up to 3 responses)**

Save money..... 01
 Right thing to do02 1st__
 Protect the environment.....03
 Ensure water available for future generations04 2nd__
 Do not try to conserve water05
 Other (SPECIFY)_____ 98
 Unsure 3rd__

Section D- Water Consumption / Usage

- D1. **(ASK EVERYONE):** How many 8 oz. (approx. 225 ml) glasses of water do you personally consume on a typical day?

_____ #

None98 (Skip to Q. E1)

Unsure99

- D2B. And what percentage of the water you consume each day is bottled water? That would include water sold in bottles or jugs or cooler dispensers but not self-filtered water like Brita.

_____ %

Zero or None98 (Skip to Q.E1)

Unsure99

- D6. What is the main reason that you would sometimes drink bottled water instead of tap water? **(RANDOMIZE - ACCEPT ONLY ONE MENTION)**

Convenience/portable01

Bottled water is safer than tap water02

Bottled water tastes better than tap water03

Like packaging.....04

Availability of the product05

Like to have cold water06

No tap water available07

Buy bottled water when traveling or away from home08

Buy bottled water instead of other beverages09

Prefer reverse osmosis water10

Available at work11

Other (Please specify)98

Unsure.....99

- D7. How often do you consume the following types of bottled water?
(RANDOMIZE)

		At least once a day	At least once a week	At least once a month	Less than once a month	Never	Unsure
a)	Spring water	1	2	3	4	5	9
b)	Mineral water	1	2	3	4	5	9
c)	Purified water	1	2	3	4	5	9
d)	Flavoured water	1	2	3	4	5	9
e)	Vitamin-enhanced	1	2	3	4	5	9

Section E – General Attitudes

E1. People have different views and attitudes on different issues. Please indicate if you agree or disagree with the following statements: **(RANDOMIZE)**

		Strongly Disagree	Moderately Disagree	Moderately Agree	Strongly Agree	Unsure
a)	Drinking tap water instead of bottled water is more socially responsible because tap water is more environmentally-friendly than bottled water.	1	2	3	4	9
b)	The tap water in my area is much better than it is in most other parts of the country.	1	2	3	4	9
c)	I am willing to pay more to ensure my tap water is safe to drink.	1	2	3	4	9
d)	I am confident that my tap water is safe to drink.	1	2	3	4	9
e)	I feel very knowledgeable about the impact of climate change on my drinking water supplies.	1	2	3	4	9
f)	I expect the price of my tap water will increase substantially within the next five years.	1	2	3	4	9
g)	(ASK ONLY MUNICIPAL SYSTEM USERS) The water treatment facilities and municipal water pipes in my community are in good condition.	1	2	3	4	9
h)	I have looked for information about my tap water on-line	1	2	3	4	9

Section F - Household Equipment Inventory

F1. Please indicate if you have and use any of the following equipment related to the treatment of water in your household: **(RANDOMIZE-a-j)**

		Yes	No	Unsure
a)	A water softener system	1	2	9
b)	Small water pitcher/jug with a filter	1	2	9
c)	An under-the-sink water filter	1	2	9
d)	A personal portable water bottle with a built-in filter for use inside and outside the home	1	2	9
e)	A bulk water cooler dispenser	1	2	9
f)	A reverse-osmosis system	1	2	9
g)	A point-of-entry or "total home water filtration system" (A total home water filter is a treatment device that is installed on the main water line of the house and treats all of the water entering your home, typically removing chemicals and impurities like sand or silt.)	1	2	9
h)	A refrigerator with a built-in water dispenser	1	2	9
i)	A tap mounted filtration device (not including the pull-out tap-mounted model)	1	2	9
j)	A pull-out tap-mounted filtration device	1	2	9

F2. Do you own a personal portable water bottle made of tin or plastic for use inside and outside the home (no filter included)

Yes.....01
 No02
 Unsure.....99

- F4. (ASK ALL WATER TREATMENT OWNERS A TO J **ONCE ONLY EXCLUDING WATER SOFTENERS AND BULK WATER COOLERS**). Please rank the top three reasons for originally purchasing a water treatment equipment/appliance for your household (**RANDOMIZE: ACCEPT 3 RESPONSES – DRAG AND DROP**) –

Improved taste	01	
Removal of impurities in tap water	02	1 st ____
Improved coloration of water	03	
Convenience	04	
Less expensive than bottled water	05	
More environmentally-friendly than bottled water	06	2 nd ____
My water quality changed.....	07	
To improve my health.....	08	
New house/apartment, wanted filtered water system	09	
Pregnancy.....	10	
Family or friend recommendation	11	3 rd ____
Impulse buy – saw a display at the store.....	12	
New baby.....	13	
Kids are on-the-go more so than before	14	
Came with the house (I didn't buy myself)	15	
Price of the unit	16	
Price of replacement filters.....	17	
Other (Please specify).....	98	
Unsure	99	

- F5. (If “yes” to F1: “b”, “c”, “d”, “f”, “g” “h” “i” or “j” **ASK ONCE ONLY:**) What percentage of the water you consume each day is treated with a residential water treatment device? This would include water that has been filtered with a home filtration device and does not include water that is sold in bottles or jugs or cooler dispensers.

_____ %	
Zero or None	98
Unsure	99

- F6. (**ASK EVERYONE**):

Would you say the amount of water you are drinking today that has been filtered in the home has increased, decreased or stayed the same as it was two years ago?

Increased a little	01
Increased a lot.....	02
Stayed the same	03
Decreased a little.....	04
Decreased a lot	05
Not applicable.....	06
Unsure.....	99

F7. (ASK everyone F7a) and F7b) but for F7c) only ask if they said “yes” to F1 “b”, “c” “d” “f” “g” “h” “i or “j”)

Below are a few statements about home water treatment devices. Please indicate if you agree or disagree with each one using the 10-point scale where “1” means you “disagree completely” and “10” means you “agree completely”. **(RANDOMIZE)**

		Disagree Completely					Agree Completely					Unsure
a)	The need for treating tap water with a home treatment device has never been greater than it is today.	1	2	3	4	5	6	7	8	9	10	99
b)	Filtered water using a home treatment device is better for you than most bottled water.	1	2	3	4	5	6	7	8	9	10	99
c)	(Ask only home treatment device owners) I am careful to replace the filters in my water treatment device within the recommended time.	1	2	3	4	5	6	7	8	9	10	99

Section G – Water Issues

G2. Please indicate if you agree or disagree with the following statements regarding the potential impact of climate change on drinking water supplies. Please use the 5-point scale below where a “1” means you “strongly disagree” with the statement and a “5” means you “strongly agree” with the statement. **(RANDOMIZE-a-d)**

		Strongly Disagree			Strongly Agree		Unsure	Not Applicable
a)	Utilities are less able to guarantee an uninterrupted supply of drinking water due to extreme weather conditions caused by climate change.	1	2	3	4	5	99	98
b)	I am at risk of basement flooding or yard flooding because of climate change.	1	2	3	4	5	99	98
c)	The water, wastewater and storm water infrastructure in my community can handle the extreme weather conditions caused by climate change.	1	2	3	4	5	99	98
d)	I am concerned that if we don’t act now on climate change that we will seriously reduce the amount of drinking water available for human consumption.	1	2	3	4	5	99	98

Section H - Communication Issues

H1a) Thinking about the tap water that comes into your residence, would you say that you know pretty well everything you care to know about this water or would you like to know more about this water?

- Know enough01 (SKIP TO
 Q.H2)
 Like to know more02
 Unsure.....09 (SKIP TO
 Q.H2)

H1b) And what information about your tap water would you like to know more about?

(RANDOMIZE- ACCEPT UP TO THREE RESPONSES)

- The source of my tap water01
 Reading or understanding water quality reports.....02
 The quality of my tap water.....03
 Availability of future water supplies04
 How to conserve water05
 Understanding how my tap water is treated.....06
 Are they removing all impurities from my tap water?.....07
 Who do I call if I have questions about my tap water?08
 Other (Specify)99
 Unsure.....99

H2. What would be the best way to reach you with important announcements or facts about the public drinking water supply in your region? **(RANDOMIZE- ACCEPT ONLY ONE RESPONSE)**

- TV ad.....01
 Ad in local newspaper02
 Ad in other print (flyers / magazine)03
 With my water bill04
 Billboard ad05
 Radio commercial.....06
 Direct mail07
 News media general.....08
 Internet.....09
 Sales people in stores10
 Community signage.....11
 Not interested in receiving anything12
 Other (specify)98
 Unsure.....99

Respondent Demographics

(ASK EVERYBODY)

Thank you – you are almost done. The following questions are for statistical purposes only.

DS1. What language is spoken most often in your home?

English.....	01
French	02
Arabic	03
Cantonese	04
Chinese	05
Cree	06
Dutch	07
German	08
Greek.....	09
Hindi	10
Italian.....	11
Korean.....	12
Mandarin	13
Ojibwe	14
Persian/Farsi	15
Polish.....	16
Portuguese	17
Punjabi	18
Russian	19
Spanish	20
Tagalog	21
Tamil.....	22
Ukranian	23
Other (Specify)	98
Unsure/Prefer not to answer	99

DS2. What is the highest level of education you have received?

Some high school or less.....	01
Graduated high school.....	02
Some technical / or college training	03
Graduated college or technical school	04
Some university	05
Graduated university	06
Unsure/Prefer not to answer	99

DS3a) Do you own or rent your home?

Own	01
Rent.....	02
Other	03
Unsure/Prefer not to answer	99

DS3b) Which of the following best describes your main place of residence?

Apartment/condominium01
Single family home02
Duplex/Semi-detached/Townhouse03
Other98
Unsure/Prefer not to answer99

DS4. How many children under the age of 18 years live in your home?
_____ (Insert #)

Unsure/Prefer not to answer99

DS5. Which of the following categories best describes the total annual income before taxes, of all members of your household?

Less than \$20,00001
\$20,000 to just less than \$40,00002
\$40,000 to just less than \$60,00003
\$60,000 to just less than \$75,00004
\$75,000 to just less than \$100,00005
\$100,000 and over06
Unsure/Prefer not to answer99

DS6. In what year were you born? (Record Date)

Thank you very much for your time.