How clean energy makes life more affordable—and how to talk about it

Join us as some of Canada's leading climate think tanks offer informed insight on the most politically salient issue of the year.

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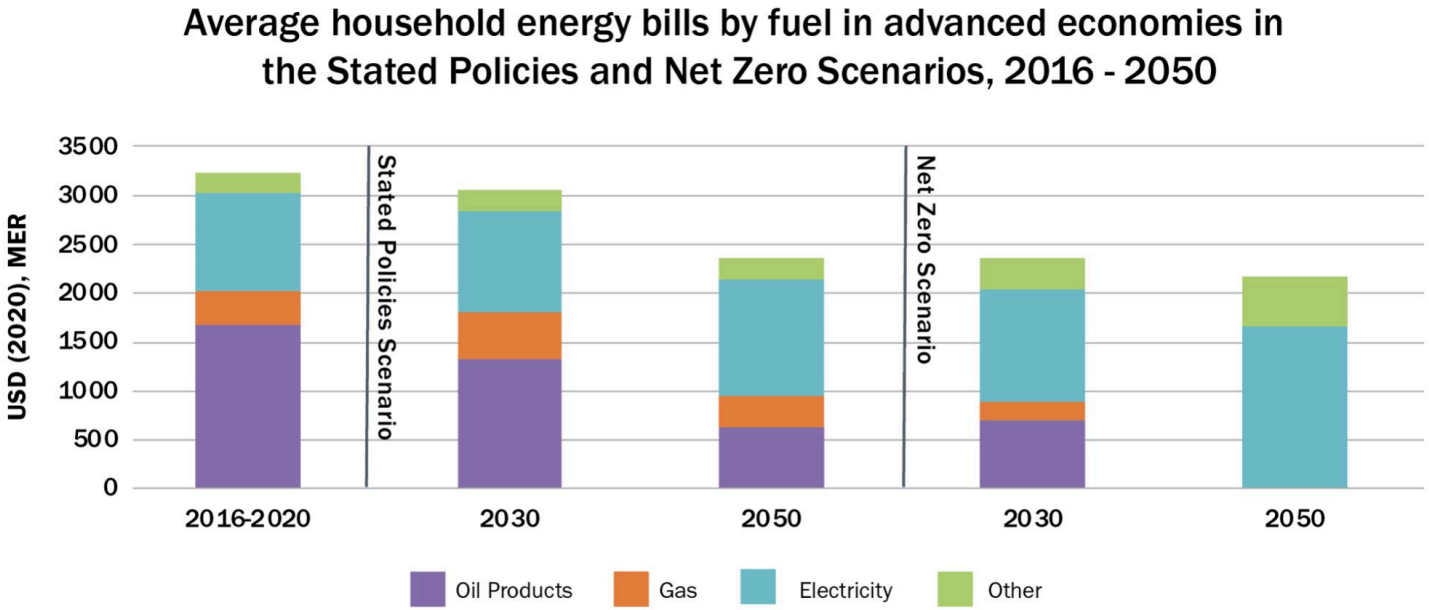
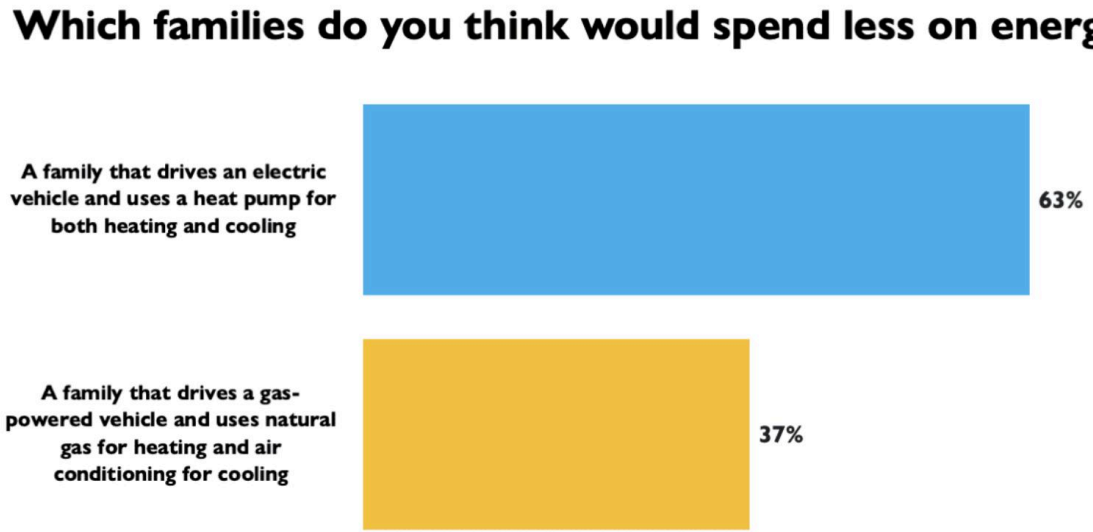
Canadians will spend less money on energy than they do today as we transition from fossil fuels to clean energy



Source: International Energy Agency, World Energy Outlook 2021

Families will spend a bit more on electricity—and a lot less on fossil fuels



A Clean Bill

How clean energy makes life more affordable for Canadians

Jana Elbrecht, Policy Advisor

CLEAN ENERGY CANADA

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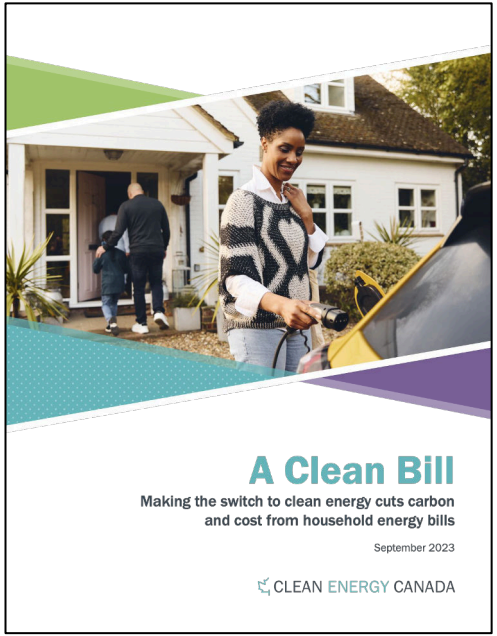
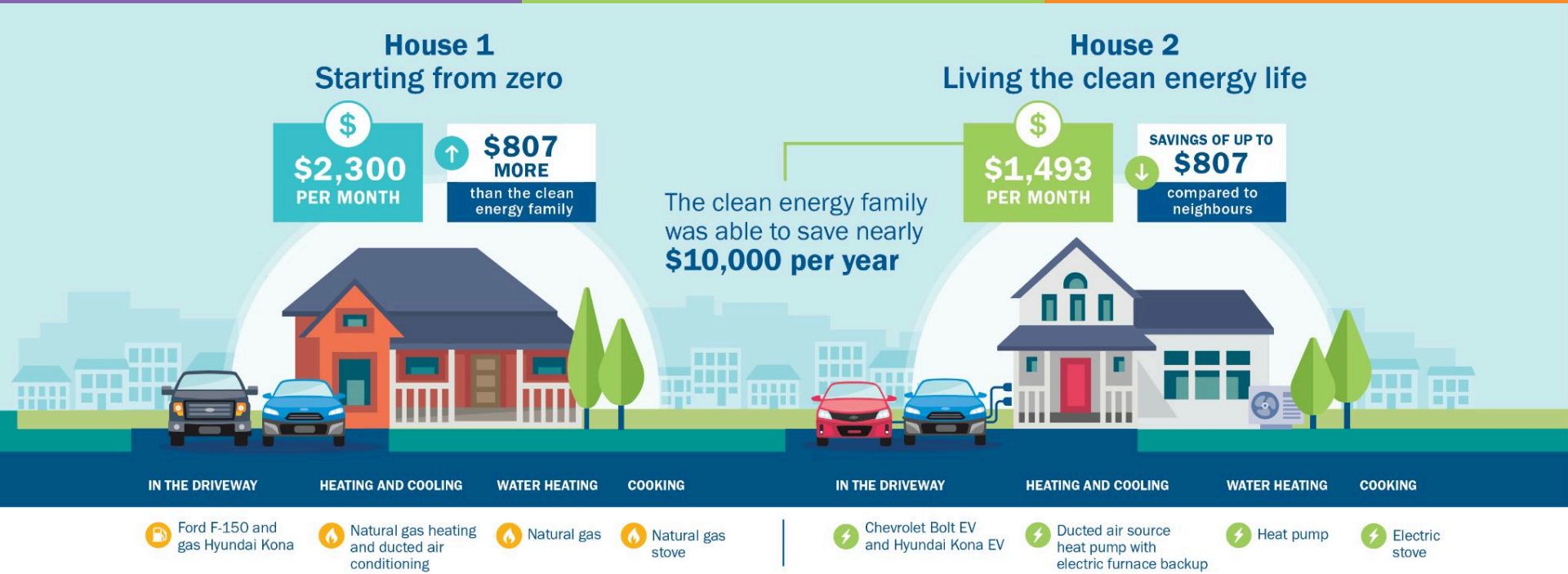
Ditching fossil fuels can save money

Clean Energy Canada's analysis finds that switching to clean energy, like EVs and heat pumps, **would save a household in the Greater Toronto Area over $800 per month**—even when upfront costs are factored in.

We also found that most EVs now break even with gas cars in under a year.



Clean energy single-family households come out ahead



Clean energy single-family households come out ahead

Starting from zero

MONTHLY BILL

	ENERGY COSTS	EQUIPMENT COSTS* (excludes resale value for cars)	TOTAL
VEHICLE COST	$1,118	$829	$1,947
HEATING & COOLING	$151	$40	$191
WATER HEATING	$16	$9	$25
COOKING	$2	$9	$11
REMAINING ELECTRICITY BILL	$126		$126
CLIMATE ACTION INCENTIVE PAYMENT (carbon tax rebate)	$(81)		$(81)
TOTAL	**$1,412**	**$888**	**$2,300**

$2,300 PER MONTH

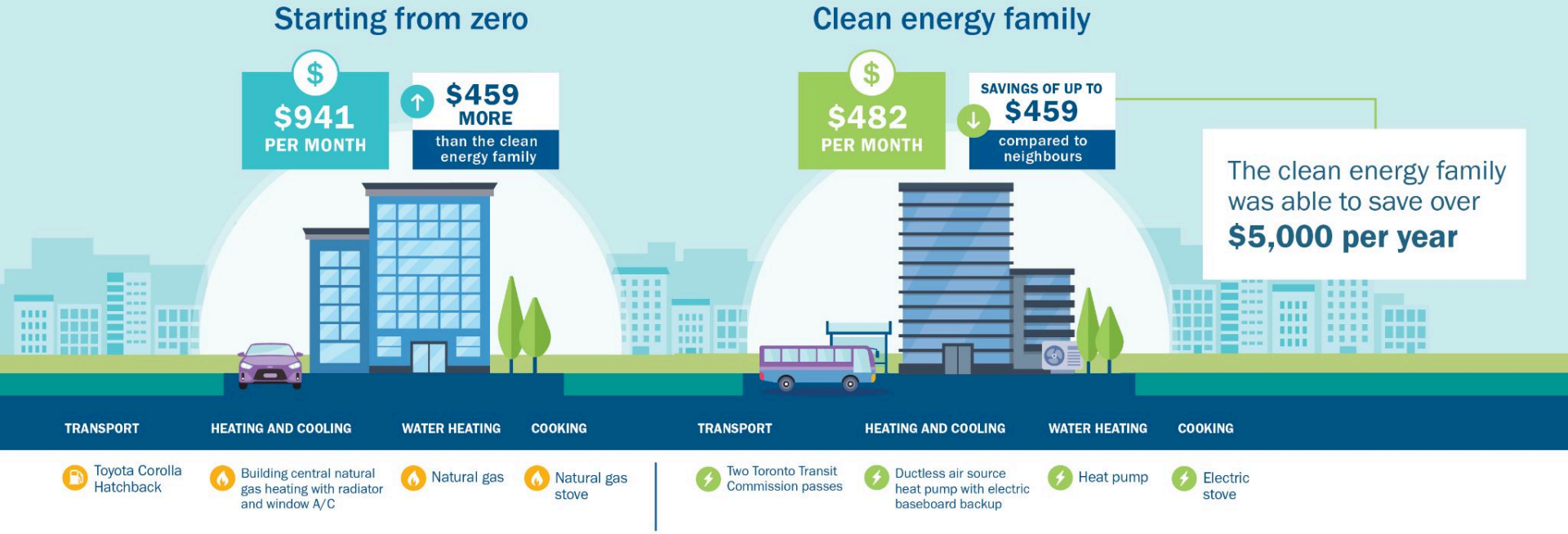
Clean energy family

MONTHLY BILL

	ENERGY COSTS	EQUIPMENT COSTS* (excludes resale value for cars)	TOTAL
VEHICLE COST	$473	$720	$1,193
HEATING & COOLING	$102	$33	$136
WATER HEATING	$15	$12	$27
COOKING	$4	$7	$11
REMAINING ELECTRICITY BILL	$126		$126
CLIMATE ACTION INCENTIVE PAYMENT (carbon tax rebate)	$(81)		$(81)
TOTAL	**$720**	**$773**	**$1,493**

$1,493 PER MONTH

Clean energy multi-family dwelling households come out ahead



Clean energy multi-family dwelling households come out ahead

Starting from zero

MONTHLY BILL

	ENERGY COSTS	EQUIPMENT COSTS* (excludes resale value for cars)	TOTAL
VEHICLE COST	$463	$290	$753
HEATING & COOLING	$100	$5	$106
WATER HEATING	$10	$9	$20
COOKING	$2	$9	$11
REMAINING ELECTRICITY BILL	$52		$52
CLIMATE ACTION INCENTIVE PAYMENT (carbon tax rebate)	$(61)		$(61)
TOTAL	**$628**	**$313**	**$941**

$941 PER MONTH

Clean energy family

MONTHLY BILL

	ENERGY COSTS	EQUIPMENT COSTS* (excludes resale value for cars)	TOTAL
TRANSPORT	$286		$286
HEATING & COOLING	$71	$40	$111
WATER HEATING	$10	$12	$22
COOKING	$4	$7	$11
REMAINING ELECTRICITY BILL	$52		$52
CLIMATE ACTION INCENTIVE PAYMENT (carbon tax rebate)	$(61)		$(61)
TOTAL	**$423**	**$59**	**$482**

$482 PER MONTH

Savings are even greater in other provinces

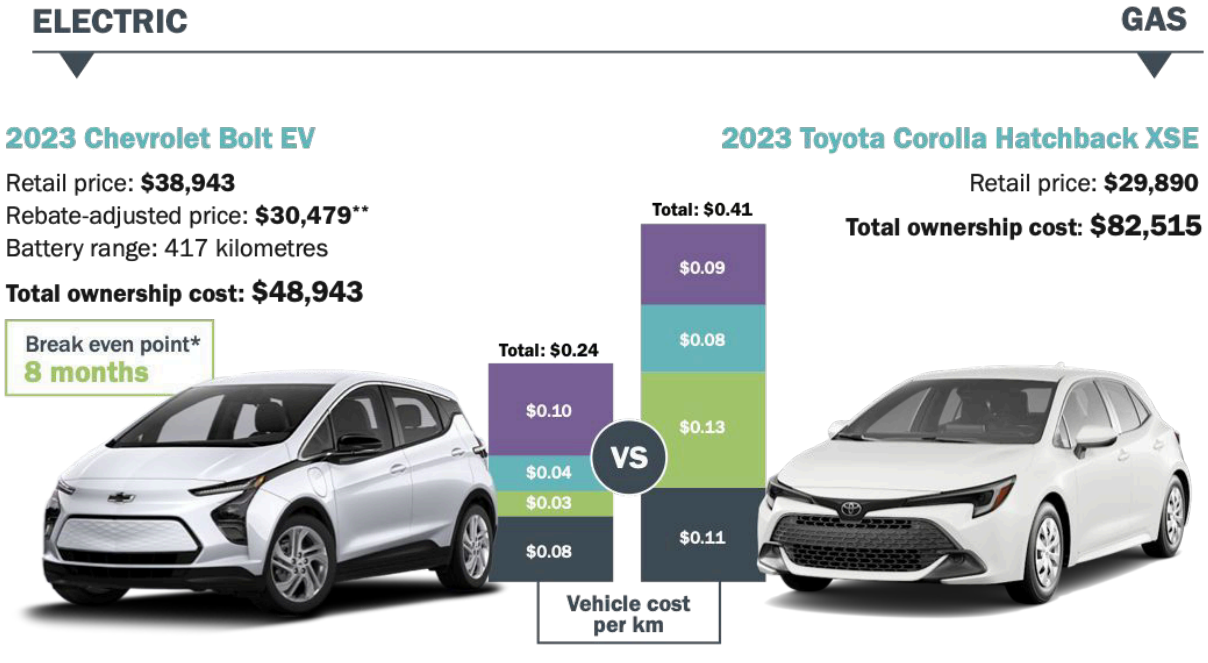
In Metro **Vancouver**, savings go up to

$1,037 for single-detached homes
$495 for condos

And in **Halifax**, savings are

$940 for single-detached homes
$647 for condos

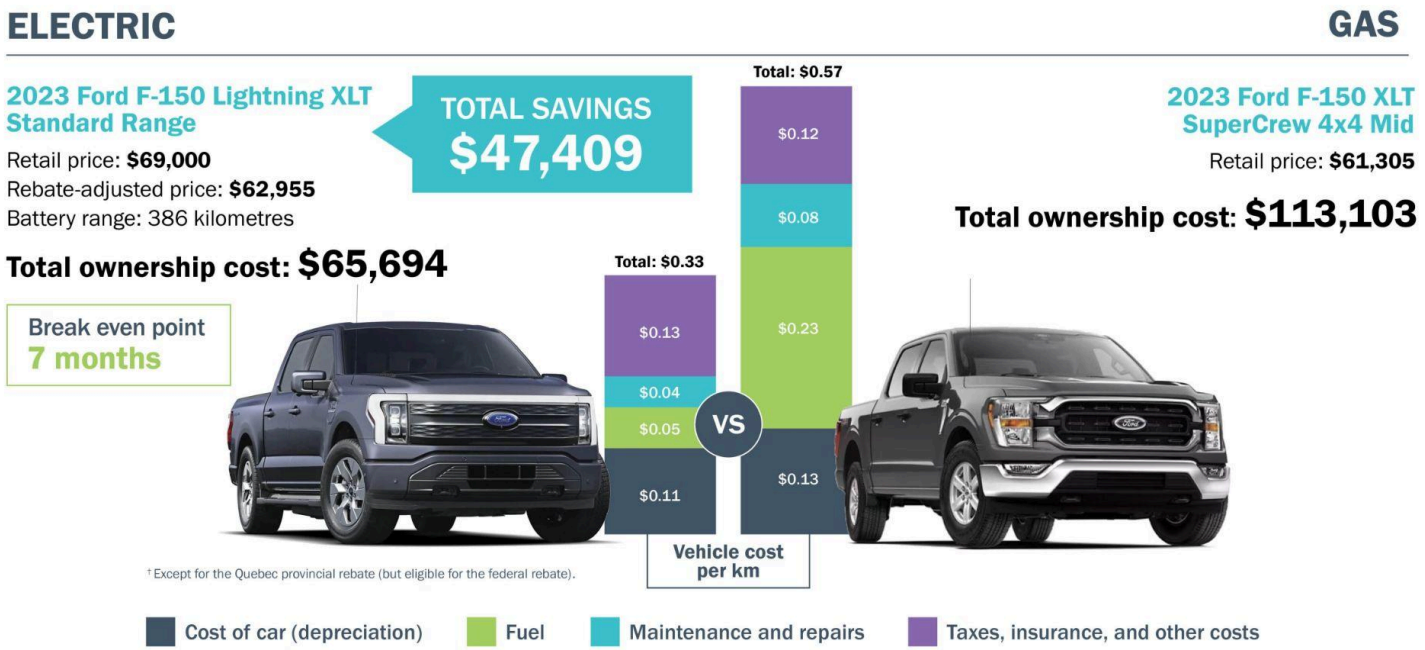
EVs are the biggest money savers



Choosing a Chevrolet Bolt instead of a Toyota Corolla Hatchback would save **$33,600 over a 10-year ownership** period.

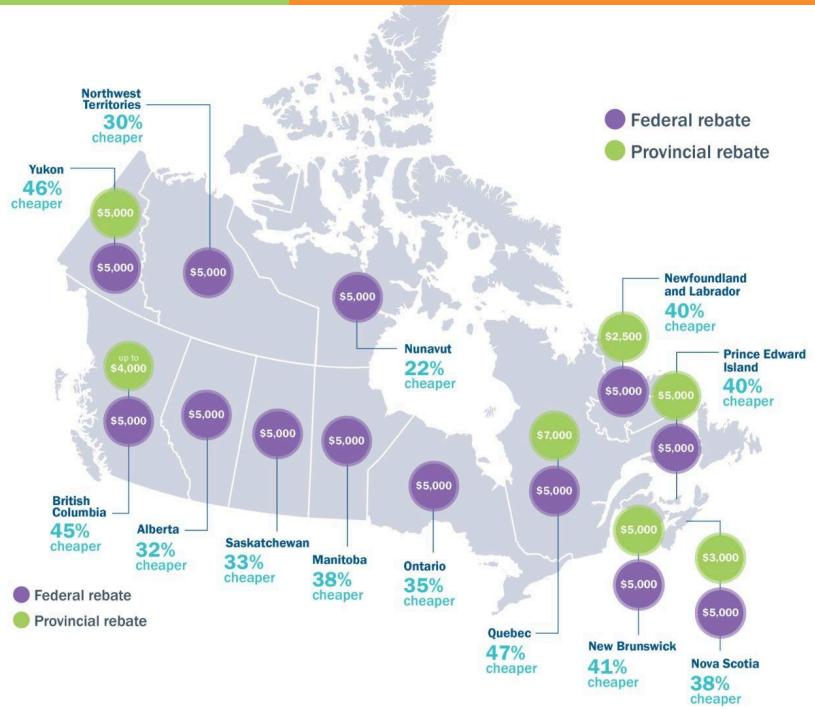
- Fuel
- Maintenance and repairs
- Cost of car (depreciation)
- Taxes, insurance, and other costs

For cars of every size



EVs are cheaper - no matter where you live

But savings are greatest in **Quebec** and **British Columbia**, where electricity is much cheaper than gas and provincial rebates are available



Realizing savings for all Canadians

Improve affordability

Lower upfront costs, savings for renters

Enhance accessibility

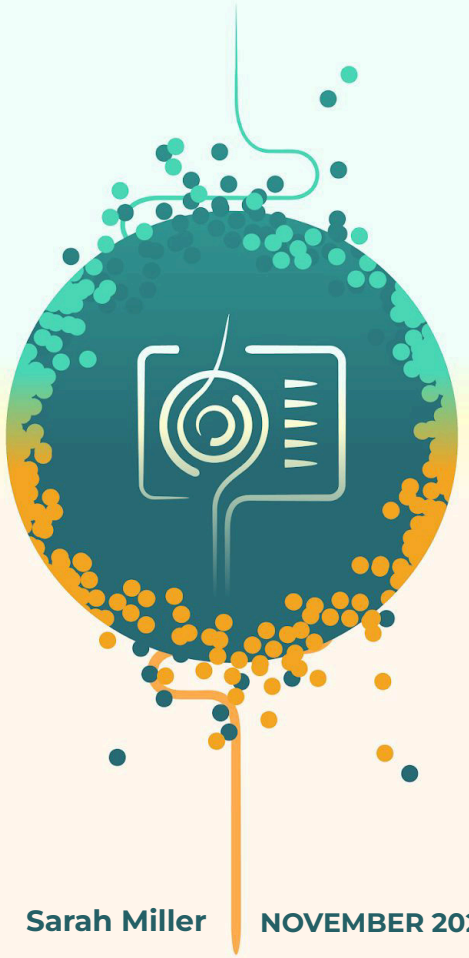
EV charging, low-income programs, easy rebates

Empower customers

Electricity pricing, smart grids

Heat Pumps Pay Off

Unlocking lower-cost heating and cooling in Canada

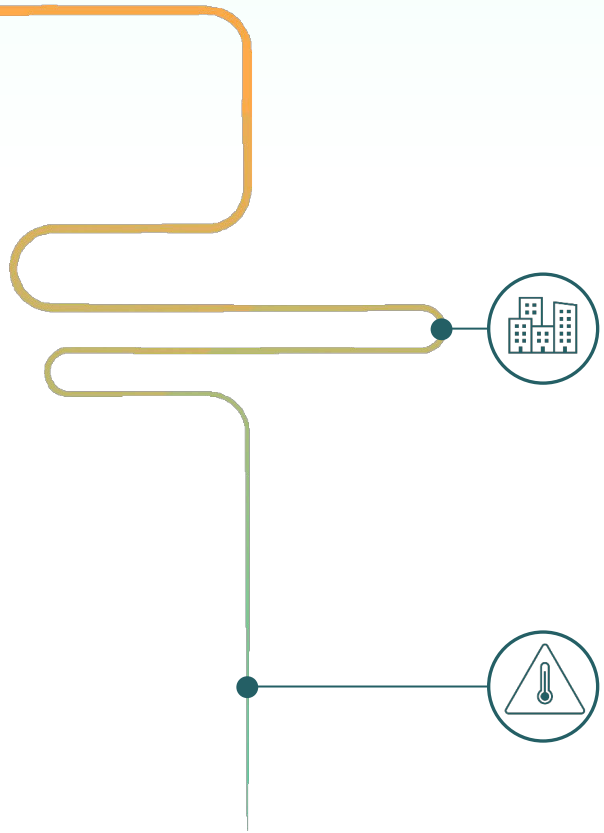


Sarah Miller

NOVEMBER 2023

CANADIAN CLIMATE INSTITUTE
L'INSTITUT CLIMATIQUE DU CANADA

Benefits of heat pumps



An essential tool for freeing homes from fossil energy and reducing emissions from homes and buildings

Provide protection from extreme heat – increasingly important as the climate changes


Our
approach

Our approach

Modelling inputs

- CITY
- BUILDING TYPE
- VINTAGE
- EQUIPMENT OPTIONS

1940 1980 2023

Our approach

Lifetime costs presented as average annual costs.

Different assumptions for installation, equipment and energy prices to account for a range of possibilities.

Conservative assumptions for heat pumps:

- High interest rates
- Backup heating systems in all climates, including with cold-climate heat pumps

Results

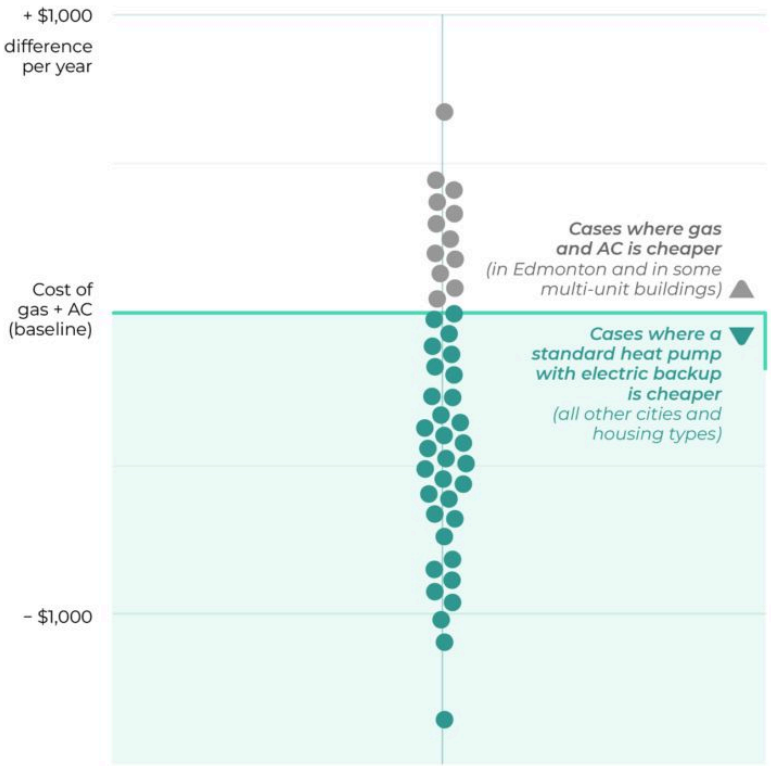
Results

Heat pumps are **the lowest-cost option** for most households.

Heat pumps are more cost competitive ● than gas furnaces and air conditioning for most households

Annualized cost difference between a standard heat pump with electric backup and gas heating and air conditioning

Each dot ● represents a household type (combination of building type, build year and city), arranged by annual cost differences.



Results

Heat pumps are **the lowest-cost option** for most households.

The biggest drivers of cost-competitive ness across cities are **regional energy prices and climate conditions.**

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Policy and programming support the cost competitiveness of heat pumps.

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Heat pumps are **the lowest-cost option** for most households.

The biggest drivers of cost-competitive ness across cities are **regional energy prices and climate conditions.**

Policy and programming support the cost competitiveness of heat pumps.

All-electric scenarios – with electric backup - **are low-cost** for households**.**

Interactive


Barriers

Barriers to heat pump adoption

High upfront costs remain a major barrier

Complex and cumbersome programming impedes uptake

Consumer confidence is undermined by **a lack of familiarity and unclear information**

Structural barriers limit access for many households

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Recommendations

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1. All orders of government should **maintain current policies and rebates** that support heat pump adoption, even as uptake accelerates.

2. Governments should **streamline existing programming** and **improve equity of access**.

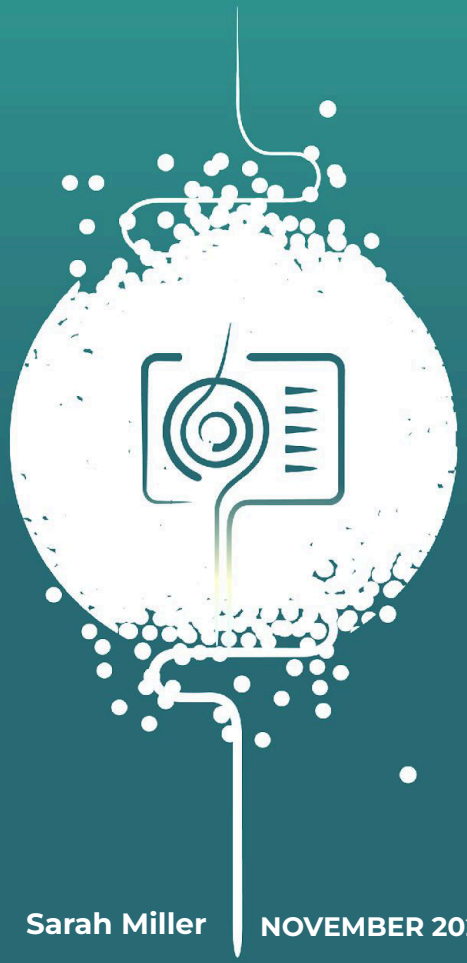
3. Provincial governments should support the establishment of **one-stop shop energy and efficiency services.**

4. Governments should establish maximum **indoor temperature limits** and active and passive cooling requirements.

5. Provincial and municipal governments should require **non-polluting and high-efficiency heating and cooling** in new buildings in regions where the all-electric heating scenario is already the lowest-cost option

Heat Pumps Pay Off

Unlocking lower-cost heating and cooling in Canada



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Re.Climate™
COMMUNICATING FOR CHANGE
Action
Research
Communication
Motivation

Re.Climate is Canada’s go-to centre for training, research and strategy on climate change communication and engagement at Carleton University.

We know cost of living and affordability dominate evaluations of climate policy

- Cost of living and affordability triggering security values at the expense of social values.
- Canadians are preoccupied with cost of living and affordability concerns.
- These security concerns are muting support, setting limits, on support for climate action, particularly regulations with financial implications (carbon price, clean fuels regulation, clean electricity regulation).
- This is a challenging environment to be communicating enhanced ambition and stronger targets.
- Energy Efficiency Affordability framing may only take us so far.

35%

Canadians divided

Abacus, October 2023 for CCNB

35% believe Clean Electricity Regulation is fair.
35% believe CER unfair in 2023.

-14% think the CER fair in 2023, compared to 2022.
+10% think it is unfair.

More optimistically:
22% very unfair/unfair
22% very fair/fair
49% slightly unfair/neutral/slightly fair

Fairness is a distributional evaluation

- **70%** of Canadians believe low-income households will be more harmed by the CER than other groups in 2023; up 3% from 2022
- **60%** of Canadians in 2023 believe people who consume more electricity will be affected the most, down 9% from 2022
- **53%** of Canadians in 2023 believe the CER will protect nature and future generations, down 8% from 2022
- **53%** believe the CER will make their financial situation worse, up 4% over 2022
- **36%** believe they will be worse off compared to others, up 3% from 2022

51%

of Canadians think the CER is acceptable

Abacus, October 2023 for CCNB

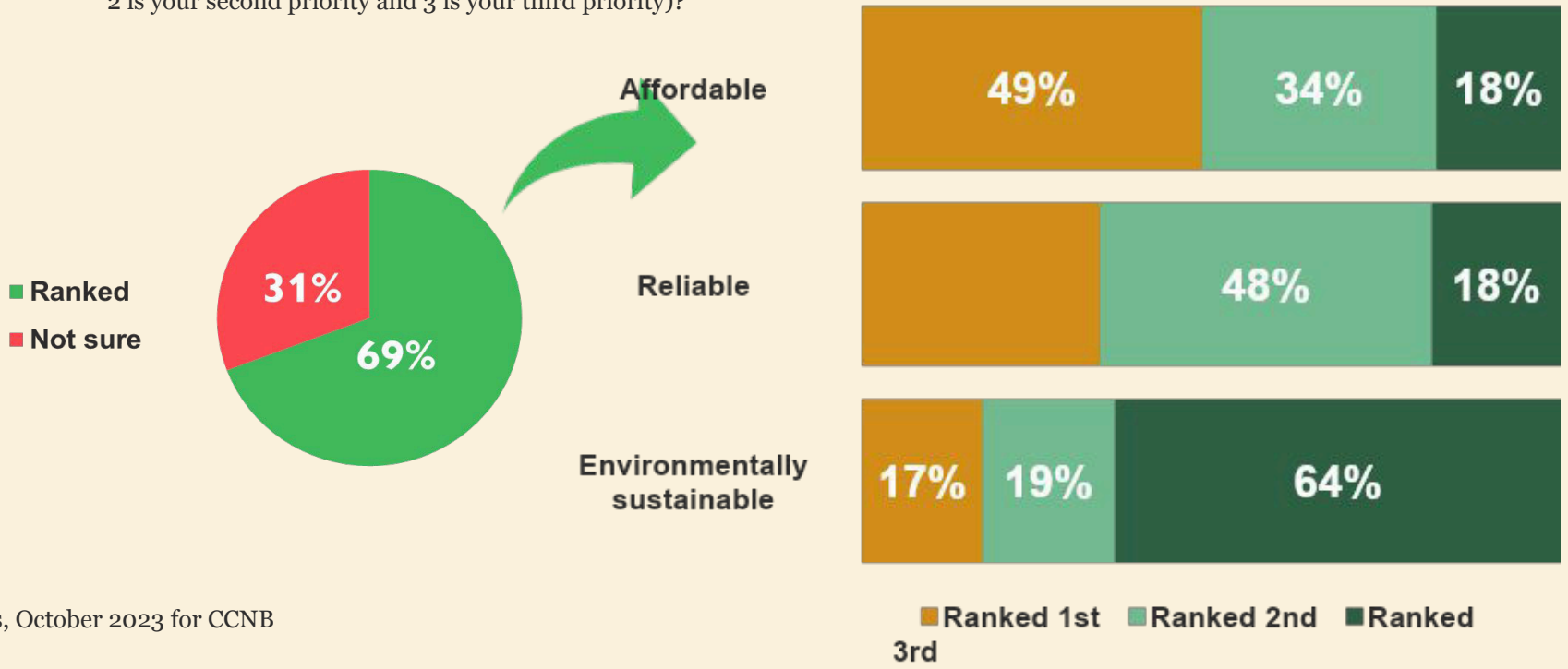
51% of Canadians think the CER is acceptable,
-11% from 2022

Unacceptability is **+7%**

17% very unacceptable/unacceptable
34% very acceptable; acceptable
43% slightly unacceptable/neutral/slightly acceptable

Electricity Source Priority Rankings

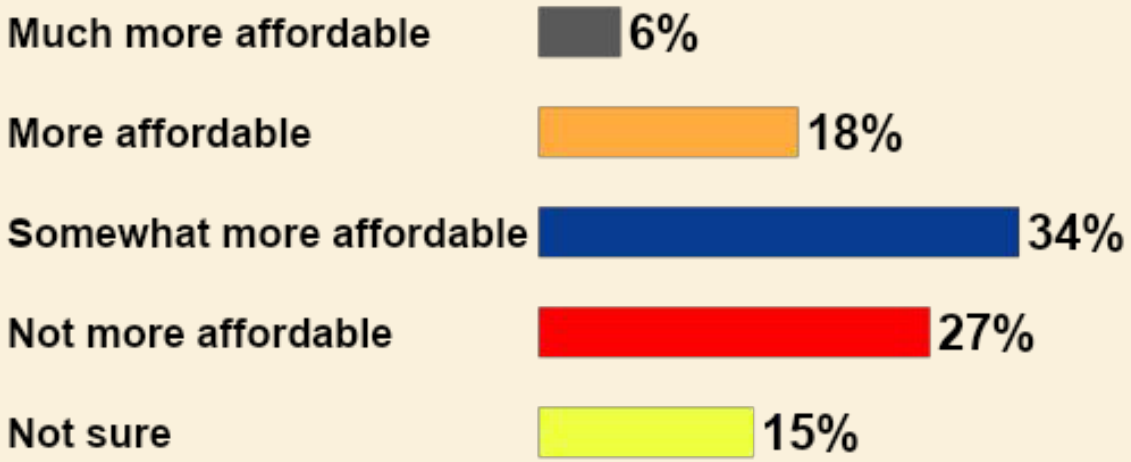
QUESTION Which aspect is most important to you when it comes to your electricity (where 1 is your top priority, 2 is your second priority and 3 is your third priority)?



Abacus, October 2023 for CCNB

Outcome of Transition Incentive Policies

QUESTION In the previous question you indicated that Affordable is most important to you when it comes to your electricity. In your opinion, are existing policies you are aware of that provide financial support to help cover the up-front costs of energy efficiency upgrades, installing heat pumps, and switching from gas to electric vehicles making these options more affordable?



Abacus, October 2023 for CCNB

Create Space for Conversations

- More than half of Canadians trust friends and family as sources of information on electricity affordability (Abacus 2023)
- Creating shared meaning
- Make it local, practical

Narratives Demonstrate a Divided Public

Abacus, October 2023 for CCNB

Take control of climate pollution.

We need to take control of the climate pollution putting our safety at risk. A clean electricity regulation builds on Canada's success. We already have a relatively low-polluting electricity system. We need to go the last mile because electricity is central to our quality of life and modern living. Good policy gives Canadians access to affordable power from wind, solar and storage technologies. Good policy reduces energy poverty by giving Canadians more access to energy efficiency programs.

- 43% strongly agree/agree; 62% with slightly agree
- 42% slightly disagree/neutral/slightly agree
- 60 plus strong supporters

Take control of climate policies.

We need to take control of policies that put our quality of life at risk. A clean electricity regulation, like a carbon tax and clean fuels regulation, raises the cost of living and forces people to make hard, unsafe choices between heat or food. These bad policies are unaffordable and increase energy poverty. We need to regain control over the cost of living and feel safe again. We can't afford to deal with climate change right now.

- 37% strongly agree/agree; 51% with slightly agree
- 41% slightly disagree/neutral/slightly agree
- 45 to 59-year olds strong supporters

NARRATIVE STRUCTURE

CHALLENGE

The world is changing.

Climate solutions that work are available, affordable, and stabilize energy costs

CHOICE

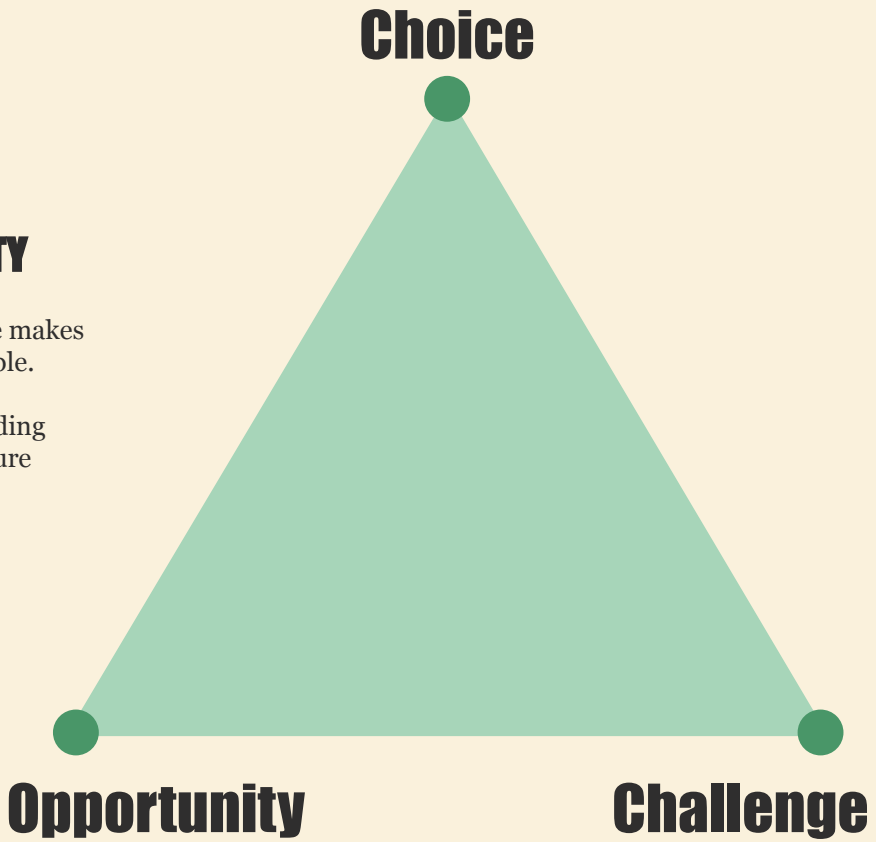
Clean electricity.

Climate action is fair, polluters should pay

OPPORTUNITY

Action on climate makes life more affordable.

Canada is succeeding and can meet future goals



Use powerful visual language

Canada — Part of the appeal of solar is the potential for local jobs, community ownership and local energy supply. JOAN SULLIVAN, IRON AND EARTH

Use Plain, Powerful Language

INSTEAD OF...		CONSIDER...
Economic benefits	→	Good stable jobs, new businesses and investments
Just transition, equity + inclusion	→	Putting people at the heart, fairness, accessible for all
Social	→	Communities, neighborhoods, families, schools, businesses
Environment	→	Nature, forests, animals, rivers, oceans, food, clean water
Low-carbon	→	Pollution-free, modern energy, clean
Mitigation + emissions	→	Pollution, heat-trapping blanket
Adaptation	→	Actions to reduce damage, risk and vulnerability

Closing Thoughts: Tips, Challenges, and Questions

- Frame affordability concretely to reflect lived experience, especially for 45 to 59 year olds.
- Don’t forget reliability and to highlight benefits to health, nature and future generations.
    - A good third of the population are strong allies less focused on costs/affordability, especially people 60 plus.
- Savings benefits may be less important right now than the value people perceive from energy price stability (e.g., energy security). That said, the Control Climate Policies narrative is most supported by 45-to-59-year-olds, a cohort most concerned about cost of living
- Don’t overstate by ignoring program accessibility and navigability concerns: Heat pumps may deliver great improvements but if you can’t get one who cares.
- Consider the balance between the focus on the consumer versus the need for industry to do more of its fair share.
- How do we respond to the growing trust in family and friends over institutions, including academics, environmental groups and government?

Thank You

Re.Climate

Questions?

Each Monday we publish the Clean Energy Review, a free weekly digest of must-read climate and clean energy stories from across Canada and around the world.

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