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Natural Resources in a Low-carbon Economy 2019

Final Report

Prepared for Natural Resources Canada

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Canada

Natural Resources in a Low-carbon Economy
Final report

Prepared for Natural Resources Canada by Environics Research

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Executive summary

A. Background and objectives

Canada is one of the world's leading producers of natural resources and is also one of the highest per capita users of energy. As such, the importance of natural resources to this country cannot be overstated. The priorities of the Government of Canada, and of Natural Resources Canada (NRCan) in particular, are:

- Accelerating development of clean technology and the transition to a low-carbon economy
- Enhancing our sustainable resource advantage through science
- Improving market access and competitiveness

NRCan commissioned Environics Research to conduct qualitative and quantitative research. This research was designed to provide a clear and current understanding of Canadian public opinion on a wide-range of natural resource issues related to forests, mining, energy (including energy efficiency), clean technology, climate change and government science.

B. Methodology

Qualitative phase

A series of twenty online focus groups was conducted between January 30 and February 19, 2019. Focus groups were held using online conference technology with residents of Toronto, Calgary, Vancouver, Timmins, Dartmouth, Prince George, Saint John and Medicine Hat (two groups per location in English) and Montreal and Val D'Or (two groups per location in French). The participants in these focus groups were segmented by household income – one group in each city was composed of Canadians with lower household incomes and the second group was composed of Canadians with higher household incomes. Across all groups, 140 participants were recruited and 96 attended. Participants received a $100 honorarium. Focus group sessions were about one hour and 45 minutes in duration.

In this report, regional differences are highlighted according to the following breakdowns:

- Urban cities include: Vancouver, Calgary, Toronto and Montreal
- Rural cities include: Prince George, Medicine Hat, Timmins, Val D'Or, Dartmouth and Saint John
- Coastal cities include: Vancouver, Dartmouth and Saint John
- Inland cities include: Prince George, Calgary, Medicine Hat, Timmins, Toronto, Montreal and Val D'Or
- Western cities include: Vancouver, Calgary, Prince George and Medicine Hat
- Eastern cities include: Timmins, Toronto, Montreal, Val D'Or, Dartmouth and Saint John

Statement of limitations: Qualitative research provides insight into the range of opinions held within a population, rather than the weights of the opinions held, as would be measured in a quantitative study. The results of this type of research should be viewed as indicative rather than projectable to the population.

Quantitative phase

Environics Research conducted an online survey with 3,444 Canadians aged 18 and over, from March 4 to 15, 2019. Quotas were set by age, gender, and region and the final data were weighted to ensure the sample is representative of the Canadian population, according to the most recent Census. Survey respondents were selected from registered members of an opt-in online panel. Since a sample drawn from an online panel is not a random probability sample, no formal estimates of sampling error can be calculated. Nonetheless, online surveys can be used for general population surveys provided they are well designed and employ a large, well-maintained panel.

More information about the methodology for research is included in Appendices A and B of the full report.

C. Contract value

The contract value was $168,115.75 (HST included).

D. Key findings

A. Qualitative research

- Focus groups participants demonstrated limited knowledge of and understanding about a low-carbon economy. The term was understood to refer to efforts to reduce carbon emissions, but few could explain how this was connected to the economy (either positive or negative).
- When discussing changes required at either a household or a societal level to achieve a low-carbon economy, participants tended to fall back on well-known actions with which they are already comfortable (i.e., recycling, reducing waste or conserving energy). Similarly, there was a tendency to focus on solar, wind energy and hydro energy supply solutions because they are generally positioned as positive and environmentally friendly options.
- Participants were unclear what potential impacts a low-carbon economy will have on Canada's natural resource industries. Participants in communities where these industries are prominent were no more aware of the implications from a natural resource perspective.
- Participants recommended communications designed to encourage a low-carbon shift should focus on positive environmental outcomes rather than on positive economic ones. Yet at the same time, the up-front cost to their household was by far the key perceived barrier to making changes. These conflicting viewpoints suggest that an economic argument is relevant, but perhaps more so at the household level than for the overall economy.
- Further efforts are needed to convince Canadians that change is possible and to demonstrate the effectiveness of these changes. The biggest barrier to a low-carbon economy focussed on the cost and/or perceived cost of making changes. Therefore, participants were most likely to want financial incentives, as well as clear guidance and results-based reporting, to help encourage all Canadians to work together to bring about a low-carbon economy for Canada.

B. Quantitative research

- Canadians take a "big-picture" view of the country's natural resource issues, indicating that the top concern is ensuring there are enough resources for future generations (14%). The exception is Alberta, where residents place greater emphasis on the need to get a pipeline approved and built (16%). From three to under four in ten (between 31 and 37 percent) rate the federal government's performance on natural resources issues as good, but Canadians don't appear to differentiate between the various aspects of the file, suggesting a broad lack of familiarity with the government's efforts.

- The public holds largely positive views about natural resource development writ large. There is widespread recognition that it provides employment opportunities and benefits the country (84% agree), province (79%), community (65%) and individuals themselves (54%). Canadians also express generally positive opinions about the economic contributions of specific natural resource industries, including the oil sands, mining and forestry sectors. Opinions tend to be more divided about the adequacy of regulations to limit the environmental impact of these three industries.

- There is broad support for expanding energy infrastructure such as pipelines, railways, ports and roads to get oil sands oil to market (69% vs. 31% who oppose new infrastructure). This level of support reflects the majority view (62%) that oil will remain as important an energy source for households and businesses, or become even more important, in the next decade. When it comes to energy issues in Canada today, Canadians express the greatest concern about the price they pay (83%), ahead of concerns about the environmental impact of the industry (74%) and the country's ability to shift to clean energy sources (70%).

- Opinions about new innovations suggest that Canadians are moderately optimistic about their potential. For instance, forest bioenergy is considered a renewable (72%), affordable (66%), low-carbon (57%) energy source that Canada should rely more on (57%). As well, a small majority (58%) believes small nuclear energy reactors should be part of Canada's energy mix. Canadians' positive orientation towards innovation is also evident in the two initiatives considered most important for Canada to adopt to achieve a low-carbon economy: fund new technologies to store energy from alternative sources, and convert waste and residues to biofuels and renewable natural gas.

- Validating the findings of the focus group research, there is a lack of familiarity with and understanding of the term "low-carbon economy", which could hamper efforts to communicate with Canadians. Relatively few (29%) recall hearing or seeing the term recently; those who do primarily associate it with the use of renewable or low-carbon alternatives to fossil fuels, and few make the connection to the economy.

E. Political neutrality statement and contact information

I hereby certify as senior officer of Environics that the deliverables fully comply with the Government of Canada political neutrality requirements outlined in the Communications Policy of the Government of Canada, and Procedures for Planning and Contracting Public Opinion Research. Specifically, the deliverables do not include information on electoral voting intentions, political party preferences, standings with the electorate, or ratings of the performance of a political party or its leaders.

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About this report

This report begins with an executive summary outlining key findings and conclusions, followed by detailed analysis of the qualitative and quantitative results. A detailed set of “banner tables” is provided under separate cover; this presents results for all survey questions by segments such as region, age and gender.

The quantitative results are expressed as percentages unless otherwise noted. Results may not add to 100% due to rounding or multiple responses. Net results cited in the text may not exactly match individual results shown in the charts due to rounding. Base size is the total sample of n=3,444 unless otherwise specified.

I. Detailed findings – qualitative phase

A. Climate change as a topic of discussion

At the beginning of each focus group, participants were asked to what extent climate change is a topic of discussion in their everyday lives. Many said that climate change is a casual topic of discussion; most often participants said these discussions were prompted by changes in weather and extreme or unusual weather events. These conversations were often said to be focused on concerns around climate change and its potential impacts.

A small number of participants who described themselves as having significant interest in and concern for the environment reported having more in-depth discussions about climate change, including ways to address it. A few participants said that climate change was not a topic of discussion in their lives at all.

B. Awareness of/orientation to the issue

Participants were asked what a "low-carbon economy" means to them. The term was generally unfamiliar to participants across all groups and many admitted lacking knowledge of this term entirely. Those who tried to describe the term often focused on "low-carbon" and efforts to reduce greenhouse gas emissions; few connected the environmental outcomes with any impact to the economy. Participants who mentioned the economy typically referred to the expense, both at an individual and industry level, to achieve a low-carbon society.

Participants were given a brief description of a low-carbon economy[1] to ensure a common understanding so that everyone could participate in the discussion. Awareness of Canada's plans to transition to a low-carbon economy was not widespread although there was awareness of global attention to addressing climate change. Often, participants conflated initiatives from a variety of government jurisdictions within Canada (primarily provincial). Many mentioned the federal carbon tax, particularly in provinces where there has been high profile opposition to it. Those familiar with the carbon tax had heard about it through the mainstream media. There were also some mentions of transitioning to renewable energy sources and increasing access to these sources by individual households.

Generally, participants felt that the reasons for shifting to a low-carbon economy centred on protecting the environment for the future. This was often a values-based reasoning with little to no mention of the potential economic outcomes or other reasons for a shift.

Participants gave varied responses when asked for a timeframe for when the shift needs to happen. Of those expressing urgency, many participants said the shift should have started years ago while others felt a change must begin immediately; these participants often referenced recent reports by climate change experts on the state of the climate change problem. Other participants felt that a 5- or 10-year timeline would be more realistic in order to account for changes to legislation and to prepare for industry changes. There were few participants who suggested a lengthier timeline (e.g. 15 to 20 years) would be appropriate. It was often acknowledged that both industry and individuals/households will need time to adapt.

[1] A low-carbon economy will grow Canada's economy while reducing the greenhouse gas emissions that cause climate change. As a result, we'll be using clean electricity to power our homes, workplaces, vehicles and industries, and using energy more efficiently.

Participants were divided on whether the term “shift” implied appropriate urgency, or whether it signified an abrupt change that may worry Canadians. Other terms suggested by participants included transition and transform, and less commonly, change, adapt and evolve. In the French groups, “passer” (shift) seemed to be the right word to explain the need for and urgency of a low-carbon economy. In French, “transition” seemed to suggest it would take too much time whereas “passer” meant that changes will start happening now.

C. Life in a low-carbon economy

The next section of discussion asked participants to think about how a low-carbon economy might be achieved in their city/town. This discussion first focused on transportation and then moved to homes.

Transportation

When asked about changes to reduce transportation emissions in their community, the key theme raised by participants (particularly in urban areas) is that public transit needs to be improved to support greater use by more people. There was an appreciation, especially in urban areas, that reducing the number of vehicles on the road would have a great impact on reducing emissions. However, some suggested people residing outside city limits and families in particular would continue to rely on personal vehicles. Many participants in rural and remote areas simply felt public transit is not an option in smaller cities.

Some mentioned electric vehicles as a way to reduce emissions, although there were concerns about operation in cold climates, range and access to charging stations (particularly in rural areas). Many felt cost was a barrier to wider use of electric vehicles and while some mentioned looking into purchasing an electric vehicle, this was typically only in the very early consideration stage. Hybrid vehicles, by comparison, were mentioned very infrequently. Some mentioned that public transit and taxis could transition to electric.

Other suggestions less often mentioned as ways to reduce transportation emissions included: encouraging more carpooling or ridesharing, walking and biking, reducing gridlock and traffic congestion, and greater ability for people to work remotely.

On the whole, participants seemed to favour efforts to make environmentally-friendly transportation options more accessible and encourage (motivate) people to use them. There was minimal discussion about implementing stricter standards or regulation for transportation or vehicles.

When asked about reducing emissions from the transportation of goods, participants were not very informed or knowledgeable about options or alternatives. Nevertheless, participants were supportive of changes, with increased use of rail transportation most commonly mentioned. A few suggested delivery services could adopt electric transportation. Another idea raised was to reduce the need for long-distance transportation altogether, by shopping local and reducing online shopping.

When asked their willingness to support retailers that use low-carbon transportation options, many said they were open to the idea, but would ultimately be guided by the cost of goods. If low-carbon transportation means goods are more expensive, most participants (especially those in low income groups) say they will opt to stay with traditional retailers. Participants in rural cities often felt their retail options are already limited and therefore restrict any opportunity to choose low-carbon alternatives. In addition, it was unclear to participants how Canadians would know which products or retailers use low-carbon transportation and so they felt it could be difficult to support the right retailers.

The perceived drawbacks of shifting to low-carbon transportation include cost and affordability, as well as geographic concerns (e.g. access to travel options, access to goods) especially for those in rural areas.

Buildings

When asked about the most feasible changes to improve the energy efficiency of homes in their community, suggestions included: improved insulation, reduced use of lights, smart thermostats, recycling or goods re-use, and use of energy efficient lights, appliances, furnaces, windows and water heaters. The need for these types of changes appears well-accepted, with some indicating they have already made many of these changes and others considering these changes in the near future.

Solar panel installation was also mentioned in almost every group, but many explained that the cost is prohibitive or that snow or lack of sun does not make it a feasible year-long option in certain parts of the country.

Many also spoke about general ways to reduce pollution and waste at the household level. Separating and diverting waste is a regular suggestion when talking about homes and reducing output. Most agreed that changes such as these would have a cumulative impact if many Canadians commit to making them.

Participants sometimes expressed the need for better incentives to help transition to energy efficient options or to take on energy efficiency renovations, as cost was often identified as a barrier to change. Some were aware of local or provincial programs that offer financial incentives for changes related to buildings but few were aware of any federal government initiatives of this nature.

The perceived drawbacks of housing-related changes often centred on cost and affordability, while the difficulty of implementing change (i.e. the effort required to renovate a home) was also noted.

Participants in six locations[2] were asked if they had heard of the terms biomass or bioenergy. The small number who had heard these terms typically related them to waste products. Participants in rural or suburban locations (Prince George, Timmins, Val d'Or/Abitibi/Rouyn Noranda, Dartmouth) tended to be more familiar, with some mentioning local manufacturing plants using this as a form of energy. Once explained to the group, typical questions about biomass included:

- What is its source/composition and is it possibly dangerous or toxic?
- How do consumers of biomass obtain the substance? (Is it delivered? Do I have to go find it?)
- What is the cost and how does the cost compare to the way in which consumers currently obtain heat and electricity?
- Can it be done at the micro/household level?

[2] Vancouver, Val D'Or/Abitibi/Rouyn Noranda, Timmins, Dartmouth, Prince George, Saint John.

D. Electricity infrastructure

Participants were next shown an image with seven electricity sources (natural gas, oil, nuclear, hydro-electric, coal, wind, solar). When asked which sources would make the most sense for their community as part of a transition to a low-carbon economy, solar, wind and hydro-electric frequently topped the list. A few participants volunteered suggestions (tidal and geothermal energies) that were not included in the original list.

There was vague knowledge about most of the energy sources, however, and some felt they simply did not know enough to make an informed choice. While wind and solar were often considered environmentally desirable, others questioned the cost or reliability of these energy sources. Those who chose hydro often did so because of existing infrastructure and its perceived reliability. Natural gas and nuclear were also familiar to some as energy sources in their region with existing infrastructure. Coal and oil were familiar sources but not selected by any participants who viewed them as significant emitters of carbon. Tidal energy was offered as another source In Dartmouth and Saint John due to proximity to the ocean and geothermal was mentioned in Timmins.

Similar sources were typically favoured by participants in both urban and rural communities. Those from coastal cities favoured wind slightly more often, while solar was favoured slightly more by those from inland cities. Participants in Eastern Canada favoured hydro-electric slightly more than those from Western Canada; those from Western Canada favoured solar slightly more than those from Eastern Canada.

Participants were then asked whether they prefer the development of new energy infrastructure in their community to be:

a. A local project, developed by their community or a group of neighbouring municipalities,

b. A provincial project, developed by their province, or

c. An interprovincial project, developed by their province and a neighbouring province.

While views were mixed, a provincial approach is preferred by a small margin over an interprovincial approach, with the smallest number selecting a local approach. Preference for a provincial approach often came down to the desire to share (financial) resources, especially for those in smaller communities who may not be able to afford infrastructure changes on their own.

Once again, preferences were mostly similar between urban and rural participants. Those from coastal cities favoured a local approach slightly more, while an interprovincial approach was favoured slightly more in inland communities. Those from Eastern Canada favoured provincial and interprovincial approaches slightly more, while those from Western Canada favoured a local approach slightly more.

E. Actions and priorities

Personal/household actions. Participants were asked about the types of changes they recently or are currently making or would be willing to make in the near future to live a low-carbon lifestyle. Participants felt they are currently and regularly making efforts, with many identifying their primary motivation as saving money (rather than reducing environmental impacts). Participants often described actions such as recycling, reducing waste and conserving energy. Other actions included using public transportation, driving less, buying local, and taking on small home renovations.

Few spoke about more substantial efforts such as major renovations or shifts to different energy sources. Often, participants felt limited in their ability to make changes due to the cost they associate with energy efficient options.

Government of Canada initiatives. Participants were next presented with seven ways that the Government of Canada could promote a low-carbon economy for all Canadians. Participants were asked to select up to three initiatives that would be most effective in encouraging the transition to a low-carbon economy.

The initiative typically considered as **most effective** was *"Offer financial incentives to Canadian households to help them embrace change"* as it spoke directly to the issue of cost, which was a regular theme during the groups.

The next most popular option is to *"Fund new technologies to store energy from sources like solar and wind,"* followed by *"Require all new buildings to achieve net-zero energy"*. Participants said they selected these options because they were positive changes that could encourage innovation and motivate Canadians to take action. However, most also acknowledged that they have limited understanding of how these initiatives might work.

Participants were then asked to select up to three initiatives that would be **least effective** in encouraging the transition to a low-carbon economy. Most often, participants felt that the least effective options would be *"Require labelling of the energy performance of homes and buildings for prospective buyers and renters," "Replace oil and gas commercial and residential energy with electricity or low-carbon fuels (e.g., wood pellets, wood chips, renewable natural gas)"* and *"Encourage long-distance transportation to shift from road to rail (trains)."* These options seemed to be too experimental or too long-term for participants to feel these would be effective. It was difficult for them to grasp the required actions to make these changes.

F. Industry impacts

Participants were presented with four images of Canada's main natural resource industries (oil and gas, mining, forestry and nuclear). Participants were asked which industry they felt would be most challenging to move to a low-carbon economy. Oil and gas was by far the most selected option as participants recognized the extent to which carbon is implicit in that industry. Very few participants were able to imagine how the oil and gas industry could make changes that would contribute to a low-carbon economy. Results were generally similar by geographic location.

Participants were then asked to evaluate the same four industries in terms of which would see the most positive benefit from a shift to a low-carbon economy. Participants felt that nuclear and forestry would be most likely to see a positive impact from a shift to a low-carbon economy, although few were able to substantiate their selection beyond "it will be easier than the other options."

G. Communications/information needs

The final portion of the focus groups involved a discussion about what participants feel is most important for the federal government to emphasize when it comes to communicating with Canadians about the transition to a low-carbon lifestyle.

Participants most often felt the federal government's role lies in providing evidence in simple language on the current state of the issue and clearly demonstrating how proposed changes will positively impact the economy and climate change. Participants felt language should show that Canadians also have a responsibility to contribute to a low-carbon economy.

There was some discussion about the government playing a role in expressing the urgency of making changes and the consequences of not taking action; however, there was also concern that too much pressure could alarm Canadians.

Participants called on industry (e.g., real estate, delivery services, natural resource companies, corporations etc.) and governments to lead by example on a shift to a low-carbon economy, reducing the cost of adopting new technologies for all Canadians over time.

Many felt the government should explain to Canadians how the transition is not going to be an economic hardship and that it will not cost more to Canadians. Those living in areas potentially impacted by industry changes (oil patch job losses, for example) want to know how the government will help those people and their communities.

Participants recommended communications designed to encourage a low-carbon shift should focus on positive environmental outcomes rather than on positive economic ones. Yet at the same time, the up-front cost to their household was by far the key perceived barrier to making changes. These conflicting viewpoints suggest that an economic argument is relevant, but perhaps more so at the household level than for the overall economy.

II. Detailed findings – quantitative phase

A. General impressions of natural resources

Top natural resource issue

The most widely mentioned natural resource issue is making sure we have enough resources for future generations. The exception is Alberta, where there is greater attention to getting a pipeline approved and built.

When asked what they consider to be the biggest issue Canada faces with regard to its natural resources (unprompted, without providing response options), Canadians identify a wide range of issues. The most mentioned, by one in seven people, is to make sure we have enough resources for future generations. Fewer than one in ten each mentioned issues such as the need for pipeline approvals, pollution, climate change and the environmental impact of pipelines.

Top natural resource issue
(top mentions, 3% or more)

Biggest natural resource issue	Total (n=3,444)
Making sure we have enough resources for future generations	14%
Pipeline approval/need for construction	8%
Polluting the earth/environment (unspecified)	8%
Climate change	7%
Pipelines/oil spills/environmental impact	7%
Protecting forests, lakes, habitat	6%
Marketing our natural resource products	6%
Petrol/gas/oil (unspecified)	4%
Incompetent federal/provincial government	4%
Replacing fossil fuel with clean/renewable resources	3%
Water pollution/contamination	3%
Selling raw resources cheaply/import finished products at high prices	3%
Economy and its challenges	3%
Low oil prices/selling our resources at very low price	3%

Q4 What would you say is the single biggest issue Canada faces when it comes to our natural resources?

Ensuring sufficient resources for future generations is the top issue in almost all regions but is especially salient in Newfoundland (23%). The exception is Alberta, where the top issue identified is the need for pipeline approval (16%); mentions of the importance to marketing our natural resource products are also higher in Saskatchewan (15%) and Alberta (14%) than in other regions.

Mentions of having enough resources for future generations are somewhat higher among those with a university education (and 21% with a post-graduate degree). Mentions of climate change are higher among those in the highest income bracket (11% earning $150K or more).

Performance of federal government on natural resource issues

From three to under four in ten are positive about the job the federal government is doing on key natural resource issues.

Canadians were asked to rate the federal government's performance on six natural resource-related activities. Perceptions are similar regardless of the topic area, indicating that Canadians do not differentiate between the various roles the federal government fulfils with respect to natural resources. From three to under four in ten feel the government is doing a good job (score of 7 to 10 on a 10-point scale) on all issues, while the remainder are fairly divided between negative ratings (score of 1 to 4) and neutral ones (score of 5 to 6). One in ten or fewer are unable to say.

Government performance on natural resources issues

Government performance on natural resource issues	Good job (7-10)	Neutral (5-6)	Poor job (1-4)	Not sure
Making sure natural resources are developed in a way that respects the environment	37%	31%	26%	7%
Investing in clean energy and clean technology	35%	32%	25%	7%
Promoting the economic growth of natural resource industries	35%	31%	26%	8%
Managing natural resource development so it is sustainable for the future	35%	31%	28%	7%
Making sure new natural resource projects are properly reviewed before being approved	34%	30%	27%	9%
Striking a balance between environmental and economic considerations	31%	33%	30%	6%

Q5 When it comes to Canada's natural resources, how would you rate the performance of the Government of Canada in each of the following areas? Please use a 10-point scale where "1" means a very poor job and "10" a very good job.

Positive views of the federal government's performance on these files is slightly higher in Ontario, Quebec and B.C. than in Alberta and the Prairies. Positive views are also somewhat higher on several areas among residents of mid-size or urban locations than among those living in rural or small communities, and among men, those aged 35 to 54, those with a university degree, and Indigenous respondents.

If natural resource development provides employment opportunities

Most Canadians believe natural resource development provides employment opportunities in specific regions and for women and Indigenous Peoples.

Canadians were asked their views about the employment opportunities created by natural resource development. A strong majority of eight in ten (81%) agree that resource development provides regional employment opportunities. Slightly fewer, but still six in ten, agree that it provides job opportunities for Indigenous Peoples (62%) or women (62%); notable proportions of 17% are not sure about these latter two.

Agreement with employment statements

Level of agreement with statements about natural resource development employment	Net: agree	Strongly agree	Some-what agree	Some-what disagree	Strongly disagree	Not sure
It provides opportunities for regional employment	81%	30%	50%	7%	3%	9%
It provides employment opportunities for Indigenous Peoples	62%	20%	42%	15%	6%	17%
It provides employment opportunities for women	62%	18%	43%	16%	5%	17%

Q6 To what extent do you agree or disagree with the following statements about natural resource development:

A majority in all regions and population segments agrees (strongly or somewhat) that natural resource development provides these employment opportunities. The proportion who *strongly* agree is higher among:

- Provides *regional* employment opportunities: Alberta (43%), Saskatchewan (37%), urban communities (34%), men (36%), age 55+ (33%), household income $150,000+ (47%), post-graduate education (40%).
- Provides *Indigenous Peoples* with employment opportunities: Alberta (31%), Saskatchewan (26%), men (24%), household income $150,000+ (28%), Indigenous Peoples (27%).
- Provides *women* with employment opportunities: Alberta (30%), men (23%), Indigenous Peoples (32%).

Benefits of natural resource development

There is widespread belief that natural resource development benefits the country, province, community and individual Canadians.

Canadians were asked the extent to which they believe that natural resource development benefits the country as a whole and specific parts of it. Agreement is strongest that resource development benefits the country (84% strongly or somewhat agree), but strong majorities also agree that it benefits their province or territory (79%) and their local community (65%), and just over half (54%) agree it benefits them personally.

Agreement with statements about benefits of resource development

Level of agreement with statements about benefits of natural resource development	Net: agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
It benefits my country	84%	41%	43%	7%	2%	6%
It benefits my province/territory	79%	37%	42%	10%	4%	7%
It benefits my local community	65%	28%	37%	18%	7%	10%
It benefits me personally	54%	20%	34%	21%	13%	13%

Q7 To what extent do you agree or disagree with the following statements about natural resource development.

Majorities across the country and among all population segments agree (strongly or somewhat) that natural resource development benefits the country, their province/territory and local community. The proportion who *strongly* agree is typically higher (but not in all cases) in Alberta and Saskatchewan, among men and older Canadians, and among those with higher socioeconomic status (more education and higher incomes):

- Benefits the *country*: Alberta (61%), Saskatchewan (48%), men (47%), age 55+ (48%), household income $150K+ (58%), post-graduate education (50%).
- Benefits the *province/territory*: Alberta (64%), Saskatchewan (50%), men (41%), age 55+ (42%), household income $150K+ (50%), post-graduate education (43%).
- Benefits *local community*: Alberta (55%), Saskatchewan (35%), household income $150K+ (41%).
- Benefits *me personally*: Alberta (33%), household income $150K+ (31%), post-graduate education (24%), Indigenous Peoples (28%).

B. Oil sands

Opinions on oil sands development

Majorities agree pipelines should be built to reduce greenhouse gas emissions, the markets for oil should be expanded, that oilsands support future prosperity, and that new technologies are making the oil sands more environmentally friendly. Opinion is divided about the adequacy of current regulations to protect the environment.

Canadians hold generally positive opinions about pipelines and the oil sands. Majorities of between six and seven in ten agree that: Canada should build pipelines to reduce greenhouse gas emissions (GHG) from shipping oil by train (69% agree overall, 33% strongly), the markets that buy Canadian oil must be expanded (68% agree, 32% strongly), oilsands development supports the country's future prosperity (65% agree, 26% strongly), and new technologies and innovation are making this type of development more environmentally friendly (60% agree, 21% strongly).

Views are more mixed about whether regulations are sufficient to limit the impact of oilsands development on the environment; just under half agree with this, just under four in ten disagree, and about one in six are not sure.

Agreement with statements about Canada's oil sands

Level of agreement with statements about Canada's oilsands	Net: agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
Canada should build pipelines to reduce greenhouse gas emissions resulting from shipping oil by train	69%	33%	36%	9%	9%	12%
The markets that buy oil from Canada's oilsands must be expanded to countries other than the United States such as those in Asia	68%	32%	36%	11%	7%	14%
Oilsands development supports Canada's future prosperity	65%	26%	39%	14%	8%	12%
New technologies and innovation are making oilsands development more environmentally-friendly	60%	21%	39%	16%	9%	16%
Regulations in Canada are sufficient to limit the impact of oilsands development on the environment	47%	14%	33%	23%	14%	16%

Q8 To what extent do you agree or disagree with the following statements about Canada's oilsands?

Strong agreement with all of these statements is highest in Alberta and lowest in Quebec. Strong agreement is also higher among men, those age 55 and over, and those with household incomes of $150,000 or over. The other notable subgroup difference is that those with post-graduate degrees are the most likely to strongly agree pipelines should be built to reduce GHG (41%) or that international markets should be expanded (39%).

Should Canada expand energy export infrastructure

Seven in ten favour expanding energy export infrastructure, while three in ten are opposed.

The survey explained to respondents that infrastructure must be constructed to permit companies to sell oil to global markets. Respondents were then asked to indicate which of two statements is closest to their view about building additional infrastructure to expand energy markets. Seven in ten say that Canada should expand infrastructure, because it will help create jobs and economic growth[3]. Three in ten think infrastructure should not be expanded because of the environmental impact and the possibility of accidents.

Opinion about expanding infrastructure to export energy

Opinion on expanding infrastructure to export energy	**Total (n=3,444)**
Canada **should** expand infrastructure	69%
Canada **should not e**xpand infrastructure	31%

Q9 For Canadian companies to sell oil to other global markets including those in Asia, infrastructure must be constructed. Which is closer to your point of view about whether Canada should expand railways, port facilities, roads and pipelines:
01 - Canada should expand infrastructure in order to export Canadian energy to markets like those in Asia, because it will help create jobs and economic growth in Canada -- even if there is some impact on the environment.
02 – Canada should not expand infrastructure in order to export Canadian energy to markets like those in Asia, because the environmental impact and the possibility of an accident is too high -- even if it means lost jobs and economic growth.

The dominant view across the country is that infrastructure should be expanded – although higher in Alberta (85%) and lower in Quebec (55%) than elsewhere (64%–75%). Support for expansion is also the consensus choice among all population segments, but is higher among men (78% vs. 60% of women), those age 55 and over (75%), and those with household incomes of $150,000 or more (80%).

Support for expanded infrastructure skews to those who agree markets for oilsands oil must be expanded beyond the United States (83% vs. 29% who disagree that these markets need to be expanded).

[3] A similar but differently worded question was asked in a Natural Resources Canada telephone survey conducted by Environics in 2013. In that instance and using that methodology, just under half (47%) were in favour of expansion compared to 40% against.

Is oil increasing or decreasing as an energy source

Six in ten Canadians believe oil will be as important a source of energy, or even more important, to Canadian households and businesses in ten years time.

Majority support for expanding infrastructure to get oil to market reflects the widespread belief that oil will play the same (32%) or an even more important role (29%) in the energy landscape 10 years from now. By comparison, one-third (33%) believe oil will become a less important source of energy in future.

Importance of oil as energy source ten years from now

Importance of oil as energy source ten years from now	Total (n=3,444)
Net: more important	**29%**
Much more important	12%
Somewhat more important	17%
About the same	32%
Net: less important	**33%**
Somewhat less important	23%
Much less important	10%
Not sure	6%

Q10 How important a source of energy for Canadian households and businesses do you believe oil is likely to be 10 years from now?

Belief that oil will become more important ranges from a low of 19% in Quebec to 38% in Alberta. Quebecers are the most likely to think oil will become less important (45%).

C. Mining

Majorities agree at least somewhat that mining contributes significantly to the country's economy and that it will support future property; opinion is more divided about the adequacy of regulations to limit mining's impact on the environment.

Canadians were asked their level of agreement with three statements about the mining industry. Three-quarters agree (strongly or somewhat) that mining makes a significant contribution to the country's economy, and two-thirds agree it will support future prosperity. Once again, views are more mixed as to whether regulations are sufficient to limit mining's impact on the environment (49% agree, 34% disagree, 17% are unsure).

Agreement with statements about Canada's mining industry

Level of agreement with statements about Canada's mining industry	Net: agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
Mining contributes significantly to Canada's economy	73%	24%	49%	13%	3%	12%
Mining will support Canada's future prosperity	65%	20%	45%	17%	6%	13%
Regulations in Canada are sufficient to limit the impact of mining on the environment	49%	13%	36%	24%	10%	17%

Q11 To what extent do you agree or disagree with the following statements about Canada's mining industry?

Strong agreement with all three statements is higher in Alberta and Saskatchewan and lower in Quebec, and is higher among men and those with household incomes of $150,000 or over. Strong agreement increases with age for two statements: that mining contributes significantly to the economy (30% age 55+) and that it will support future prosperity (23% age 55+).

D. Forests

Opinions about forest industry contributions

Strong majorities agree the forest industry contributes significantly to the country's economy and that it will support future property; over half agree current regulations adequately limit forestry's impact on the environment.

Canadians were asked their level of agreement with the same three statements about the forest industry. Eight in ten agree (strongly or somewhat) that the forest industry makes a significant contribution to Canada's economy, and seven in ten agree it will support future prosperity. Just over half (55%) agree regulations are sufficient to limit the forest industry's impact on the environment.

Agreement with statements about Canada's forest industry

Level of agreement with statements about Canada's forest industry	Net: agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
The forest sector contributes significantly to Canada's economy	79%	29%	50%	10%	3%	8%
The forest sector will support Canada's future prosperity	70%	22%	48%	15%	5%	10%
Regulations in Canada are sufficient to limit the impact of forestry on the environment	64%	15%	39%	22%	10%	13%

Q12 To what extent do you agree or disagree with the following statements about Canada's forest industry?

Strong agreement with these statements is generally similar by region, although somewhat lower in Quebec and Manitoba than elsewhere. As with similar statements for other resources industries, strong agreement is higher among men, those age 55 and over and those in the highest income bracket (household incomes of $150,000 or more).

Opinions about forest bioenergy

Opinions about forest bioenergy are generally positive, including that it is a renewable, affordable, low-carbon energy source, and that Canada should rely on it more.

Respondents were given a brief explanation of forest bioenergy, and then asked their level of agreement with four statements about it. Canadians tend towards generally positive opinions of forest bioenergy based on the information provided: close to three-quarters agree it is a renewable source of energy, two-thirds agree it is affordable, and close to six in ten each agree it is a clean, low-carbon source of energy and that Canada should rely more on it to meet its energy needs.

Agreement with statements about forest bioenergy

Level of agreement with statements about forest bioenergy	Net: agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
It is a renewable source of energy	72%	23%	49%	11%	4%	13%
It is an affordable source of energy	66%	18%	48%	12%	3%	20%
It is a clean and low-carbon source of energy	57%	15%	42%	17%	5%	21%
Canada should rely more on forest bioenergy to meet its energy needs	57%	15%	42%	17%	6%	20%

Q13 Wood can be converted into several solid, liquid or gaseous biofuels such as wood pellets. Forest bioenergy (energy derived from woody biomass) used in Canada is mostly produced from industrial residues. To what extent do you agree or disagree with the following statements about forest bioenergy?

Majorities in all regions and population segments agree with these statements. *Strong* agreement is highest among the groups noted below:

- *Renewable*: Men (28%), age 55+ (26%), household income $150,000+ (31%), Indigenous Peoples (37%).
- *Affordable*: Men (20%), household income $150,000+ (23%), Indigenous Peoples (29%).
- *Clean/low-carbon*: Indigenous Peoples (31%), high school or less education (19%)
- *Canada should rely more on forest bioenergy*: Indigenous Peoples (32%).

E. Nuclear

Opinion about nuclear energy

A slim majority agree that nuclear power should be part of Canada's energy mix.

Respondents were given a brief explanation that nuclear energy provides reliable electricity without carbon pollution, but that it requires careful and safe management of radioactive waste. Based on that information, just over half agree (strongly or somewhat) it should be part of the country's energy mix; one-third disagree, and one in ten are unsure.

If nuclear energy should be part of Canada's energy mix

Level of agreement that nuclear energy should be part of Canada's energy mix	Total (n=3,444)
Net: agree	**55%**
Strongly agree	20%
Somewhat agree	34%
Net: disagree	**34%**
Somewhat disagree	18%
Strongly disagree	17%
Not sure	11%

Q14 Nuclear energy is an electricity source that provides reliable electricity without carbon pollution (greenhouse gas emissions). It must be operated in a safe manner and nuclear energy produces long-lived radioactive waste that must be carefully managed. To what extent do you agree or disagree that nuclear energy should be part of Canada's energy mix?

Overall agreement (strongly or somewhat) that nuclear energy should be in the mix ranges from a low of 36% in Quebec to a high of 67% in Ontario. Agreement increases as community size increases (from 50% in small and rural communities up to 59% in major urban centres). Agreement is notably higher among men (66% vs. 44% of women), those with a university degree (61% vs. 52% with less education) and increases with household income, from 48% under $40,000 to 68% earning $150,000 or more.

Opinion about small energy reactors

Close to six in ten think small nuclear energy reactors should be included in Canada's energy mix. Most of this group comprises those who agree with the use of nuclear energy generally, although there is a small group who disagree with nuclear energy but are open to small reactors.

Respondents were given a brief description of small nuclear energy reactors and then asked if they agree or disagree with these being part of the country's energy mix. Close to six in ten agree (strongly or somewhat) that they should; three in ten disagree, and just over one in ten are uncertain.

If small nuclear energy reactors should be part of Canada's energy mix

Level of agreement that small nuclear energy reactors should be part of Canada's energy mix	Total (n=3,444)
Net: agree	**58%**
Strongly agree	22%
Somewhat agree	37%
Net: disagree	**29%**
Somewhat disagree	16%
Strongly disagree	13%
Not sure	13%

Q15 Small nuclear energy reactors are an emerging area of innovation. Compared to current nuclear power plants, small reactors will have enhanced safety features and could have smaller footprints and produce less waste. To what extent do you agree or disagree that small nuclear energy reactors should be part of Canada's energy mix?

There is a considerable overlap in views between nuclear energy generally and small nuclear reactors. Among those who believe that nuclear should be part of Canada's energy mix, more than nine in ten (94%) also agree with the use of small nuclear reactors (only 6% disagree). Similarly, eight in ten (79%) who disagree with the use of nuclear energy overall also disagree with the use of small reactors; the remaining two in ten (21%) are more open to the idea of small reactors than to nuclear energy in general.

Due to the consistency in opinions between the two questions, patterns in overall agreement about the use of small nuclear reactors echoes opinions for nuclear energy use in general. Agreement with the use of small energy reactors ranges from a low of 42% in Quebec to a high of 69% in Ontario. Agreement is higher among men (68% vs. 49% of women), those in urban communities (61%) and older Canadians (62% age 55+). Agreement also increases along with increases in household income and education.

F. Energy concerns

Canadians are most concerned about the price they pay for energy. Majorities are also more concerned than not about the impact of the industry on the environment, and the country's ability to shift to clean, renewable energy. Concern is lowest for the potential decline in U.S. demand for our energy.

Canadians express moderate levels of concern about four energy-related issues. The most pressing concern is the price paid for energy: over eight in ten (83%) are concerned, including more than four in ten (43%) who are very concerned. The next tier of concern includes the impact of the energy industry on the environment (74% concerned, including 29% very) and Canada's ability to transition to cleaner, renewable energy (70% concerned, including 25% very).

There is relatively less concern expressed about a potential decline in U.S. demand for Canada's energy exports (54% concerned, including 16% very). In fact, most opinions fall in the middle of the scale (66% are somewhat or not very concerned) and a further 10% are unsure; this lack of certainty suggests a limited understanding of the implications of such a decline.

Concern about energy issues in Canada today

Level of concern about energy issues	Net: concerned	Very concerned	Somewhat concerned	Not very concerned	Not at all concerned	Not sure
The price you pay for energy	83%	43%	40%	11%	2%	4%
The impact of the energy industry on the environment	74%	29%	45%	16%	4%	5%
Canada's ability to transition to more clean, renewable energy	70%	25%	45%	18%	5%	6%
A potential decline in American demand for Canadian energy exports	54%	16%	38%	28%	8%	10%

Q16 Thinking about energy issues in Canada today, how concerned are you about each of the following?

Concern (very or somewhat) about the price paid for energy ranges from a low of 78% in Quebec to a high of 89% in Alberta and 91% in New Brunswick; concern is higher in small and rural communities (87%) and among older residents (87% aged 55 and older). There is no significant variation in concern by household income.

Concern about the energy industry's impact on the environment ranges from a low of 64% in Alberta to a high of 80% in the Atlantic region; it is higher among women (78% vs. 70% of men) and those under age 35 (77% vs. 73% of older Canadians).

Concern about Canada's ability to convert to cleaner, renewable energy is somewhat lower in Alberta (67%) and Manitoba (62%) than elsewhere; it is higher among women (75%, vs. 66% of men).

Concern about a potential decline in American demand for Canadian energy is higher in Alberta (68%), and among those in households with incomes of $150,000 or more (63%) and those with a post-graduate degree (61%).

G. Low-carbon economy

Awareness of the term "low-carbon economy"

Relatively few Canadians have recently heard or seen the term "low-carbon economy." The term is understood to refer to the use of renewable or low-carbon energy alternatives to fossil fuels, but fewer explain how this relates to the economy.

Awareness. There is low awareness of the term "low-carbon economy". Three in ten (29%) Canadians say they have seen, heard or read something about it recently. Half (52%) do not recall seeing anything about this, and two in ten (19%) are unsure.

Recall of the term "low-carbon economy" is higher among men (34% vs. 24% of women), and increases with household income (from 23% under $40,000 up to 40% with $150,000 or more) and education (from 22% with a high school diploma or less, up to 44% with a post-graduate degree). It does not vary significantly by region.

Meaning. Respondents who recall seeing or hearing the term "low-carbon economy" recently were asked what it means to them (unprompted, without providing response categories). A low-carbon economy is most commonly described as referring to the use of environmentally-friendly or renewable energy sources instead of fossil fuels (31%), and a goal of cleaner air or a cleaner environment (27%). Fewer make the connection to the economy: some specify an economy where the goal is reducing greenhouse gas emissions (10%), and a few mention working towards a more prosperous economy or creating more jobs (3%).

What "low-carbon economy" means
(top mentions, 3% or more)

What "low-carbon economy" means	Those who have heard about low-carbon economy (n=1,003)
Using energy sources that are environmentally friendly/renewable/low-carbon/alternatives to fossil fuels	31%
Working towards cleaner air/environment	27%
An economy with the goal of reducing/limiting CO2 emissions/GHG/climate change	10%
Reducing our carbon footprint	10%
Reducing/getting rid of pollution	4%
Using energy sustainably	3%
Working towards a prosperous economy/creating more jobs	3%
Burning less fuel/using less gasoline/low-carbon usage	3%
Another tax added to the consumer	3%

Q18 What does the term "low-carbon economy" mean to you?
BASE: Have seen, heard or read the term "low-carbon economy" recently (n=1,003)

Responses are generally similar across the country and population segments. As with most knowledge-type questions, those with lower levels of education are less likely to answer the question (i.e., more likely to say they don't know).

Importance of mining and forest industries in low-carbon economy

Majorities of Canadians say the forest and mining sectors play at least somewhat important roles in a low-carbon economy.

Respondents were shown the following explanation of a low-carbon economy:

> *For the purposes of this survey, a low-carbon economy is one that will grow Canada's economy while reducing the greenhouse gas emissions that cause climate change. As a result, we'll be using clean electricity to power our homes, workplaces, vehicles and industries, and using energy more efficiently.*

They were then asked how important a role the mining and forest industries play in the transition to a low-carbon economy. Seven in ten say the forest industry plays an important role in providing the materials needed for such a transition, close to two-thirds say the mining industry is important in providing the materials needed to develop low-carbon technologies. In each case the remainder are divided between saying the role is not important, or not being able to provide an opinion.

Importance of industries in low-carbon economy

Level of importance	Net: important	Very important	Somewhat important	Not very important	Not at all important	Not sure
Role of forest sector in providing Canada with the materials needed to transition to a low-carbon economy	70%	24%	46%	11%	2%	16%
Role of mining industry in providing Canada with the materials needed to develop low-carbon energy technologies	63%	22%	41%	14%	4%	19%

Q19 In your view, how important a role does the mining industry play in providing Canada with the materials needed to develop low-carbon energy technologies?

Q20 In your view, how important a role does the forest sector play in providing Canada with the materials needed to transition to a low-carbon economy?

Responses are generally consistent by region and most subgroups. Belief that each industry plays an important role is higher among those who recall hearing the term "low-carbon economy".

Importance of initiatives to achieve a low-carbon economy

Funding new technologies and converting waste to biofuels are considered the most important initiatives for Canada to adopt to achieve a low-carbon economy.

A choice modeling (Max-Diff) exercise was conducted to understand which sorts of initiatives to promote a low-carbon economy make intuitive sense to Canadians, from a list of seven possibilities. In the survey, respondents were shown a series of screens, each displaying a subset of three out of the seven items, and asked to select which of the three initiatives they feel is the *most important* for Canada to adopt, and which is the *least important*. This approach is preferable to a straight ranking of all seven items, because it is easy to understand and mimics how people make choices in real life. The scores represent a share (or percentage) of preference for each item (rather than a percentage of respondents), reflecting the likelihood it was selected as important.[4]

Canadians say the most important initiatives for Canada to adopt are the funding of new technologies to store energy from solar and wind sources and the conversion of waste and residues into biofuels and renewable natural gas. The next tier of importance includes replacing oil and gas with electricity or low-carbon fuels, requiring net zero energy for all new buildings, and offering financial incentives to Canadian households. The initiatives deemed least important are shifting long-distance transportation from road to rail and requiring labelling of the energy performance of homes and buildings.

This ranking of preference is different from the qualitative results. We hypothesize that the focus group discussion was much more oriented towards personal action, thereby setting the context for financial incentives to be the preferred initiative. The online survey had less focus on personal responsibility, and more on industry and technological innovation, which may help explain why fund new technologies and convert waste to biofuels are ranked at the top.

Most important initiatives to achieve low-carbon economy (Max-Diff analysis)

Option	Share of preference
Fund new technologies to store energy from sources like solar and wind	20.6%
Convert waste and residues to solid or liquid biofuels and renewable natural gas	19.8%
Replace oil and gas commercial and residential energy with electricity or low-carbon fuels	16.0%
Require all new buildings to achieve net zero-energy (meaning the building produces as much energy as it uses, for example, through solar panels)	15.5%
Offer financial incentives to Canadian households to help them embrace change	13.8%
Encourage long-distance transportation of goods to shift from road to rail	9.0%
Require labelling of the energy performance of homes and buildings for prospective buyers and renters	5.2%
AVERAGE SHARE OF PREFERENCE	**14.3%**

Q21 Which of the options listed below is the initiative you feel is most important for Canada to adopt, and which initiative is the least important for Canada to adopt, to achieve a low-carbon economy?

[4] For example, *funding new technologies to store energy from sources like solar and wind* represents 20.6% of the total share of preference. If people were choosing randomly, all of the items would have a 14.3% (100/7) share. This approach also has the valuable property of ratio-scaling, meaning that an item with a score of 20 is considered twice as important as an item with a score of 10.

These findings are largely consistent across regions and population segments, with funding new energy storage technologies and converting waste to biofuels consistently ranked as the most important ways to achieve a low-carbon economy. Canadians who live in rural areas and those without a university education place greater importance on financial incentives than do other Canadians (there are no significant differences by income level).

Appendix A: Qualitative methodology

Environics Research conducted a series of 20 focus groups with members of the general Canadian population between January 30 and February 19, 2019.

Group composition

Two sessions each were conducted in Toronto, Calgary, Vancouver, Timmins, Dartmouth, Prince George, Saint John, Medicine Hat, Montreal and Val D'Or. In each community, one session was conducted with lower income Canadians, and one was conducted with higher income Canadians. Sixteen sessions were conducted in English and four were conducted in French. The sessions were distributed as follows:

Date and time	Group Composition
January 30, 5:00 p.m. EST	Lower income – Toronto, Ontario
January 30, 7:00 p.m. EST	Higher income – Toronto, Ontario
January 31, 5:00 p.m. MST	Lower income – Calgary, Alberta
January 31, 7:00 p.m. MST	Higher income – Calgary, Alberta
February 4, 4:00 p.m. PST	Lower income – Vancouver, British Columbia
February 4, 6:00 p.m. PST	Higher income – Vancouver, British Columbia
February 5, 5:00 p.m. EST	Lower income – Montreal, Quebec
February 5, 7:00 p.m. EST	Higher income – Montreal, Quebec
February 7, 5:00 p.m. EST	Lower income – Timmins, Ontario
February 7, 7:00 p.m. EST	Higher income – Timmins, Ontario
February 9, 2:00 p.m. AST	Lower income – Dartmouth, Nova Scotia
February 9, 12:00 p.m. PST	Lower income – Prince George, British Columbia
February 11, 6:00 p.m. AST	Higher income – Dartmouth, Nova Scotia
February 11, 5:00 p.m. PST	Higher income – Prince George, British Columbia
February 12, 6:00 p.m. AST	Lower income – Saint John, New Brunswick
February 12, 5:00 p.m. MST	Lower income – Medicine Hat, Alberta
February 14, 6:00 p.m. AST	Higher income – Saint John, New Brunswick
February 14, 5:00 p.m. MST	Higher income – Medicine Hat, Alberta
February 19, 5:00 p.m. EST	Lower income – Val D'Or/Abitibi/Rouyn Noranda, Quebec
February 19, 7:00 p.m. EST	Higher income – Val D'Or/Abitibi/Rouyn Noranda, Quebec

Each group lasted approximately one hour and 45 minutes, and consisted of between one and seven participants (out of seven people recruited for each group).

Recruitment

Environics developed the recruitment screener and provided it to Natural Resources Canada for review prior to finalizing. Participants were screened to ensure they were invited to the appropriate session according to household income. Participants were also screened to ensure the groups included a mix of gender, education,

age, and that they would be comfortable voicing their opinions in front of others. Normal focus group exclusions were in place (marketing research, media, and employment in the federal government, and recent related focus group attendance). All participants were offered a $100 honorarium to encourage participation and thank them for their commitment.

The recruiting team encountered difficulties in recruiting for the Val d'Or/Abitibi/Rouyn-Noranda groups, because there was a limited number of individuals from these regions in their database. Environics used a Facebook recruit to supplement the list of interested participants. This list was then passed onto the recruiting team for screening and to confirm eligibility.

All groups were video and audio recorded for use in subsequent analysis by the research team. During the recruitment process, participants provided consent to such recording and were given assurances of anonymity.

Moderation

Three senior researchers were used to moderate all sessions, as follows:

- Rick Nadeau, Senior Associate, moderated sessions on February 5th and 19th.
- Derek Leebosh, Vice President, Environics, moderated sessions on February 9th.
- Jodi Shanoff, Vice President, Environics, moderated all remaining sessions.

All qualitative research work was conducted in accordance with professional standards and applicable government legislation (e.g. PIPEDA).

Appendix B: Quantitative methodology

The quantitative phase of this research consisted of an online survey of 3,444 adult Canadians. Survey respondents were selected from registered members of an online panel. Since the samples used in online panel surveys are based on self-selection and are not a random probability sample, no formal estimates of sampling error can be calculated. Nonetheless, online surveys can be used for general population surveys provided they are well designed and employ a large, well-maintained panel.

Sample design, weighting and respondent profile

Environics Research conducted this online survey from March 4 to 15, 2019. The sampling method was designed to complete interviews with at least 3,400 Canadians ages 18 and over. Quotas were set by age, gender, and region.

The survey obtained the following distribution:

Variable	% of population	Target (quota)	% of sample	Actual Unweighted	Actual Weighted*
Jurisdiction					
Newfoundland and Labrador	2%	135	4%	112	52
Nova Scotia	3%	140	4%	215	93
Prince Edward Island	<1%	75	2%	30	14
New Brunswick	2%	135	4%	136	76
Quebec	23%	750	22%	751	806
Ontario	38%	800	24%	806	1,319
Manitoba	4%	180	5%	235	121
Saskatchewan	3%	180	5%	137	103
Alberta	11%	475	14%	488	386
British Columbia	13%	500	15%	508	465
Territories	<1%	30	1%	26	10
CANADA	100%	3,400	100%	3,444	3,444
Age					
18-34	27%	900	29%	994	930
35-54	34%	1,300	34%	2,276	1,171
55+	39%	1,200	37%	1,274	1,343
Gender					
Male	49%	1,675	49%	1,702	1,688
Female	51%	1,725	50%	1,720	1,736

*Results are weighted by region, gender and age to 2016 Census data.

The following table presents the weighted distribution of survey participants by specific variables.

Variable	Total sample %	% of population
Education [α]		
High school or less	26	35
Apprentice/college/some university	36	36
University graduate/post-graduate	37	29
Employment status [α]		
Full time/self employed	48	50
Part time	9	11
Not in work force (including retired)	39	35
Total annual household income+		
Under $40,000	28	57
$40,000-<$80,000	34	29
$80,000-<$100,000	15	6
$100,000-<$150,000	15	5
$150,000 or more	8	3
Survey language /official languages		
English	85	85
French	15	15
Indigenous Peoples+		
Yes	5	5
No	95	95

[α] Actual Census categories differ from those used in this survey; categories have been adjusted to correspond. Statistics Canada figures for education are for Canadians aged 25 to 64 years. For employment age 15+.

[+] Percentaged on those providing a response

Questionnaire design

Natural Resources Canada provided Environics with desired topic areas and questions that addressed the research objectives. Environics then designed a questionnaire that incorporated these questions, advising on best practices in question design, particularly for online surveys. Upon approval of the English questionnaire, Environics arranged for the questionnaire to be translated into French by professional translators.

Environics' data analysts programmed the questionnaires, then performed thorough testing to ensure accuracy in set-up and data collection. This validation ensured that the data entry process conformed to the surveys' basic logic. The data collection system handles sampling invitations, quotas and questionnaire completion (skip patterns, branching, and valid ranges).

Prior to finalizing the survey for field, a pre-test (soft launch) was conducted in English and French. The pre-test assessed the questionnaires in terms of question wording and sequencing, respondent sensitivity to specific questions and to the survey overall, and to determine the survey length; standard Government of Canada pre-testing questions were also asked. As no changes were required following the pre-test, the n=121 responses (83 English, 38 French) have been included in the final data set.

The final survey questionnaire is included in Appendix D.

Fieldwork

The survey was conducted by Environics using a secure, fully featured web-based survey environment. The average interview length was 10.2 minutes.

All respondents were offered the opportunity to complete the surveys in their official language of choice. All research work was conducted in accordance with the Standards for the Conduct of Government of Canada Public Opinion Research – Online Surveys and recognized industry standards, as well as applicable federal legislation (Personal Information Protection and Electronic Documents Act, or PIPEDA).

Following data collection, the data from this survey were statistically weighted to ensure the sample is representative of the Canadian population according to the most recently available Census information.

Completion results

The completion results are presented in the following table.

Contact disposition

Disposition		N
Total invitations	(c)	20,142
Total completes	(d)	3,444
Qualified break-offs	(e)	733
Disqualified	(f)	239
Not responded	(g)	15,013
Quota filled	(h)	713
Contact rate = (d+e+f+h)/c		25%
Participation rate = (d+f+h)/c		22%

Non-response bias analysis

The table below presents a profile of the final sample, compared to the actual population of Canada (2016 Census information). As is the case with most surveys, the final sample underrepresents those with high school or less education, which is a typical pattern for public opinion surveys in Canada (e.g., those with more education are more likely to respond to surveys).

Non-response bias analysis

Sample type	Sample*	Canada (2016 Census)
Gender (18+)		
Male	50%	49%
Female	50%	51%
Age		
18-34	29%	27%
35-54	34%	34%
55+	37%	39%
Education level [α]		
High school diploma or less	27%	35%
Trades/college/post sec no degree	37%	36%
University degree	36%	29%

* Data are unweighted and percentaged on those giving a response to each demographic question

α Actual Census categories differ from those used in this survey and have been recalculated to correspond. Statistics Canada figures for education are for Canadians aged 25 to 64 years.

Appendix C: Qualitative research instruments

February 5, 2019

Environics Research Group Limited

Online Focus Groups on Natural Resources in a Low-Carbon Economy

Natural Resources Canada

PN10208

Recruitment for Group Discussion

Respondent Name: _____

Home #: _____

Business #: _____

Group #: _____

Recruiter: _____

	GROUP 1	**GROUP 2**	**GROUP 3**	**GROUP 4**	**GROUP 5**
Location	Toronto ON	Toronto ON	Calgary AB	Calgary AB	Vancouver BC
Date	Wed, Jan 30	Wed, Jan 30	Thurs, Jan 31	Thurs, Jan 31	Mon, Feb 4
EST	5pm	7pm	7pm	9pm	7pm
Local time	5pm	7pm	5pm	7pm	4pm
Language	English	English	English	English	English
Income	Low	High	Low	High	Low
	GROUP 6	**GROUP 7**	**GROUP 8**	**GROUP 9**	**GROUP 10**
Location	Vancouver BC	Montreal QC	Montreal QC	Val d'Or QC	Val d'Or QC
Date	Mon, Feb 4	Tues, Feb 5	Tues, Feb 5	Tues, Feb 19	Tues, Feb 19
EST	9pm	5pm	7pm	5pm	7pm
Local time	6pm	5pm	7pm	5pm	7pm
Language	English	French	French	French	French
Income	High	Low	High	Low	High
	GROUP 11	**GROUP 12**	**GROUP 13**	**GROUP 14**	**GROUP 15**
Location	Timmins ON	Timmins ON	Dartmouth NS	Prince George BC	Dartmouth NS
Date	Thurs, Feb 7	Thurs, Feb 7	Sat, Feb 9	Sat, Feb 9	Mon, Feb 11
EST	5pm	7pm	1pm	3pm	5pm
Local time	5pm	7pm	2pm	12 noon	6pm
Language	English	English	English	English	English
Income	Low	High	Low	Low	High
	GROUP 16	**GROUP 17**	**GROUP 18**	**GROUP 19**	**GROUP 20**
Location	Prince George BC	Saint John NB	Medicine Hat AB	Saint John NB	Medicine Hat AB
Date	Mon, Feb 11	Tues, Feb 12	Tues, Feb 12	Thurs, Feb 14	Thurs, Feb 14
EST	8pm	5pm	7pm	5pm	7pm
Local time	5pm	6pm	5pm	6pm	5pm
Language	English	English	English	English	English
Income	High	Low	Low	High	High

7 recruits per session with the intent of having 5-6 show

NB: Income levels are defined as follows:

- **Vancouver, Calgary, Toronto:**
  - **"Higher income"** is defined as anyone with a personal annual income of **over** $75,000 or anyone in a household with multiple incomes with an annual household income of **over** $100,000
  - **"Lower income"** is defined anyone with a personal annual income of **less than** $75,000 or anyone in a household with multiple incomes with an annual household income of **less than** $100,000
- **Prince George, Medicine Hat, Timmins, Montreal, Val-d'Or, Dartmouth, Saint John:**
  - **"Higher income"** is defined as anyone with a personal annual income of **over** $60,000 or anyone in a household with multiple incomes with an annual household income of **over** $75,000
  - **"Lower income"** is defined anyone with a personal annual income of **less than** $60,000 or anyone in a household with multiple incomes with an annual household income of **less than** $75,000

Hello/Bonjour, my name is _____ from CRC Research.

Would you prefer to continue in English or French? [continue in language of preference or arrange call-back]

We are calling today to invite participants to attend an online focus group discussion we are conducting on behalf of the Government of Canada. The session will last a maximum of 2 hours and you will receive a cash gift as a thank you for attending the session.

This study is a research project, not an attempt to sell or market anything. Your participation in the research is completely voluntary and your decision to participate or not will not affect any dealings you may have with the government. All information collected, used and/or disclosed will be used for research purposes only and administered as per the requirements of the Privacy Act. May I have your permission to ask you or someone else in your household some further question to see if you/they fit in our study?

Yes CONTINUE
No THANK AND TERMINATE

ASK ALL

1. We have been asked to speak to participants from all different ages. So that we may do this accurately, may I have your exact age please? _____. WRITE IN

Under 18	1	**TERMINATE**
18-24 years of age	2	
25-34 years of age	3	
35-44 years of age	4	**GET MIX**
45-54 years of age	5	
55-64 years of age	6	
65-74 years of age	7	
75 years or older	8	**TERMINATE**

2. Are you a Canadian citizen at least 18 years old who normally resides in the [CITY] area?

Yes	**CONTINUE**
No	**THANK AND TERMINATE**
Don't know/Refused	**THANK AND TERMINATE**

3. How long have you lived in [CITY]?

Less than two years	**THANK AND TERMINATE**
Two years or more	**CONTINUE**
Don't know/Refused	**THANK AND TERMINATE**

4. Are you or is any member of your household or your immediate family employed in:

A market research, communications or public relations firm or an advertising agency	Yes	No
Media (Radio, Television, Newspapers, Magazines, etc.)	Yes	No
A federal or provincial government department or agency	Yes	No
A political party	Yes	No

IF YES TO ANY OF THE ABOVE – THANK AND TERMINATE

5. How many people 18 years of age and over are there in your household, including yourself?

One	**ASK Q.6, THEN Q.7**
More than one	**ASK Q.6, THEN SKIP TO Q.8**

6. Do you currently have children under the age of 18 living in the house with you?

Yes	**GET MIX**
No	

IF A SINGLE PERSON HOUSEHOLD IN Q.5, ASK:

7. Which of the following categories best corresponds to your <u>total</u> personal annual income, before taxes, for 2018? Would it be…? READ [ENSURE GOOD MIX]

01 - Under $20,000	**LOWER INCOME**
02 - $20,000 to just under $40,000	**LOWER INCOME**
03 - $40,000 to just under $60,000	**LOWER INCOME**
04 - $60,000 to just under $75,000	**HIGHER INCOME [Vanc/Calg/Tor - LOWER]**
05 - $75,000 to $100,000	**HIGHER INCOME**
06 – Over $100,000	**HIGHER INCOME**

IF A MULTIPLE PERSON HOUSEHOLD IN Q.5, ASK:

8. Which of the following categories best corresponds to the total combined annual income of all members of your household, before taxes, for 2018? Would it be…? READ [ENSURE GOOD MIX]

01 - Under $20,000	**LOWER INCOME**
02 - $20,000 to just under $40,000	**LOWER INCOME**
03 - $40,000 to just under $60,000	**LOWER INCOME**
04 - $60,000 to just under $75,000	**LOWER INCOME**
05 - $75,000 to just under $100,000	**HIGHER INCOME [Van/Cal/Tor – LOWER]**
06 – $100,000 to $150,000	**HIGHER INCOME**
07 – More than $150,000	**HIGHER INCOME**

9. With which gender do you identify?

Male	1	50/50 split
Female	2	
Other	3	

ASK ALL

10. Which of the following best describes your employment situation? Are you… [READ LIST]

Employed full-time (35 hrs. +)	3 minimum
Employed part-time (under 35 hrs.)	2 maximum
Not working:	**2 maximum NOT WORKING**
Homemaker	SKIP TO Q12
Student	SKIP TO Q12
Retired	SKIP TO Q12
Currently not working	SKIP TO Q12

11. What is your current occupation?

_____ _____

Type of Job Type of Company

TERMINATE IF OCCUPATION RELATES TO EXCLUSIONS IN Q. 4

12. Could you please tell me what is the last level of education that you completed?

Some High School only	1	
Completed High School	2	
Trade School certificate	3	
Some Post secondary	4	**GET MIX**
Completed Post secondary	5	
Graduate degree	6	

13. What is your ethnic background?

WRITE IN: _____

RECRUIT AT LEAST 2 NON-CANADIAN/EUROPEAN FOR GROUPS IN VANCOUVER, CALGARY, TORONTO, MONTREAL

14. Have you ever attended a discussion group or a market research focus group?

Yes	MAXIMUM 3 PER GROUP
No	SKIP TO Q.18

15. When did you last attend one of these discussion groups?

Within the last 6 months	**THANK AND TERMINATE**
Over 6 months ago	**CONTINUE**

16. How many focus groups have you attended in the past five years?

Fewer than five	**CONTINUE**
Five or more	**THANK AND TERMINATE**

17. Have you attended a discussion group or a market research focus group about natural resources or the environment within the past two years?

Yes	**THANK AND TERMINATE**
No	**CONTINUE**

18. Participants in group discussions are asked to voice their opinions and thoughts, how comfortable are you in voicing your opinions in front of others? Are you... (read list)

Very comfortable	**MIN 4 PER GROUP**
Fairly comfortable	
Not very comfortable	**TERMINATE**
Very uncomfortable	**TERMINATE**

19. The focus group will require participants to go online using a desktop or laptop computer. You will need internet access in a private and quiet location to take part in the study. You will have the option of using your computer's microphone and speaker, or you will be able to call in with a phone number while using your computer. We cannot provide this technology for you. Will you be able to access the Internet for a one and a half hour discussion using a desktop or laptop computer?

Yes	**CONTINUE**
No	**TERMINATE**

NOTE: PARTICIPANTS CANNOT USE A TABLET OR MOBILE PHONE FOR THIS TASK

20. Are you able to use high-speed internet connection to take part in the session?

Yes	**CONTINUE**
No	**TERMINATE**

21. Are there any other reasons, such as difficulty seeing materials on a screen or hearing other participants speak, that may prevent you from being able to participate in this discussion? (Remind them to use glasses if required to see material on screen)

Yes	**TERMINATE**
No	**CONTINUE**

NOTE: TERMINATE IF RESPONDENT OFFERS ANY REASON SUCH AS SIGHT OR HEARING PROBLEM, A WRITTEN OR VERBAL LANGUAGE PROBLEM, A CONCERN WITH NOT BEING ABLE TO COMMUNICATE EFFECTIVELY.

22. I would like to invite you to attend the focus group session where you will exchange your opinions in a moderated discussion with other people from your community. The group will take place on [DATE] at [TIME]. People who attend will receive $100 to thank them for their time. Would you be willing to participate?

Yes	
No	**TERMINATE**

23. The session will be audio recorded and some other members of the research team may also listen in on the session, but your participation will be anonymous. Do you consent to this?

Yes	
No	**TERMINATE**

24. The session is about an hour and a half (i.e. 90-minutes), but we are asking that all participants log into the Zoom online meeting 10 minutes prior to the start of the session. Are you able to log-in about 10 minutes prior to the start time?

Yes	
No	**TERMINATE**

25. We will contact you again before the date of the session to confirm your attendance. Note that this invitation is to you personally and you cannot have anyone else substitute for you. Do you consent to this?

Yes

No **TERMINATE**

26. Could you please provide me with your email address so I can send you login details for the Zoom web conference application?

Email address: _____

PLEASE RE-READ THE FULL ADDRESS BACK TO CONFIRM CORRECT SPELLING.
(NB: We will send the links to you early next week)

INTERVIEWERS: Tell respondent that it is a small group and anyone who does not show or cancels at the last minute will compromise the project. Make sure they know we feel their opinions are valuable and we are serious about finding out what they have to offer.

NOTE: PLEASE TELL ALL RESPONDENTS THAT THEY WILL RECEIVE A CONFIRMATION CALL THE DAY PRIOR TO THE SESSION. IF FOR SOME REASON THEY HAVE NOT HEARD FROM US THEY SHOULD CONTACT US AT _____. IF THEIR NAME IS NOT ON THE ATTENDANCE FORM THEY WILL NOT BE ADMITTED TO THE GROUP.

January 31, 2019

Environics Research

Focus Groups on Natural Resources in a Low-Carbon Economy

Natural Resources Canada

PN10208

1. Introduction to Procedures (10 minutes)

Welcome to the focus group. We want to hear your opinions. Not what you think other people think – but what you think!

Feel free to agree or disagree. Even if you are just one person among seven who holds a certain point of view, you could represent thousands of people in your community who feel the same way as you do.

You don't have to direct all your comments to me; you can exchange ideas and arguments with each other too.

There are some observers listening to the session and they are part of the research team.

We are also recording this session to help me write my report. The recording will only be used internally to analyse the research and will not be released to anyone else. I may take some notes during the group to remind myself of things also. Anything you say here will remain confidential and anonymous and any comments you make will not be linked to you by name in any reporting we do on this project.

MODERATOR TO PRESS "RECORD" ON ZOOM SCREEN

I should also mention that I work for Environics, a public opinion research company. I do not work for the Government of Canada, which is the client that commissioned the research.

Before we get started, I'd like to ask everyone to scroll over their screen until the command bar appears at the bottom. There you will notice a function called "chat". Please click on that now. It will open a chat screen to the far right of your screen. I'd like to ask you to use that function throughout our discussion tonight. If you have an answer to a question and I don't get to ask you specifically, please type your response in there. We will be reviewing all chat comments at the completion of this project.

Please turn off your cell phones.

Let's go around and introduce ourselves. Please tell us your first name and a bit about yourself. I'd also like to know if climate change is a regular topic of discussion at your house/with friends, and why or why not?

2. Awareness of/orientation to the issue (10 minutes)

Focus of this section: To what extent is this topic on their radar? What conversations are they hearing, and how much urgency do they sense about the need for change?

What do you think of when you hear the term "low-carbon economy"? What does that mean to you?

A low-carbon economy will grow Canada's economy while reducing the greenhouse gas emissions that cause climate change. As a result, we'll be using clean electricity to power our homes, workplaces, vehicles and industries, and using energy more efficiently.

- What have you heard recently about Canada's plan to transition to a low-carbon economy? Where did you hear about this? Who/what organizations are talking about this?
- What are some of the reasons for shifting to a low-carbon economy?

- When does this shift need to happen? PROBE: In 2 years, 10 years, 50 years?
- What does the word "shift" imply? Is this the right word when you think about what needs to be done to achieve the goal? Does it suggest enough or too much urgency? What about the word "transition"?

3. Life in a low-carbon economy (30 minutes – total for 3 topics)

Focus of this section: what are people's expectations for a low-carbon world? This section will help participants visualize the possible changes that will be required, and whether they are prepared to make these changes (in the next section).

Everyone in this group today is a resident of [city]. I'd like to talk about how we achieve a low-carbon economy in [city]. There are different sectors of the economy that will need to change, and we'll discuss each one.

a. Transportation (10mins)

Let's talk first about transportation.

What kinds of changes to reduce emissions from transportation are most feasible for your community? For personal vehicles? For public transit? (TYPE INTO CHAT FUNCTION)

- Does transitioning to hybrid or electric make sense as a way to reduce ghg emissions in [city]? Why/why not?

What about transporting goods to/from and within your community? What kinds of changes could you see in your community to reduce the ghg emissions from vehicle fleets, including trucks, rail or air transportation?

- PROBE: Stricter standards/regulations for vehicle emissions, use of hybrid/electric vehicles, size of vehicles
- Are you more willing to support retailers that use low-carbon transportation options, or does it not make much difference to you?

Thinking about all these transportation changes we've talked about…

- What are the drawbacks/negative impacts of these changes?
- How easy or difficult is it to make these changes?

b. Buildings (10mins)

Next, let's talk about homes.

What kinds of changes are most feasible as a way to improve the energy efficiency of homes in your community? (TYPE INTO CHAT FUNCTION)

Do you think these kinds of changes are a useful way to reduce carbon emissions and address climate change? That is, can they make a difference? Why or why not?

How good a job is Canada doing in setting standards for building and renovating homes to make them energy efficient? How can we do better? PROBE: Growing awareness, educating consumers, stricter standards, make ratings easier to use.

VANCOUVER, VAL D'OR, TIMMINS, DARTMOUTH, PRINCE GEORGE, SAINT JOHN:

Have you ever heard of biomass or bioenergy? What is it? What have you heard about it?

- Biomass refers to renewable materials like wood chips or pellets from forestry, agricultural crops and waste from various industries. These can be used as a source of fuel or energy, for example, for

heating buildings. If you wanted to know more about this low-carbon energy source, what kinds of questions would you have?

Thinking about all these housing-related changes we've talked about…

- What are the drawbacks/negative impacts of these changes?
- How easy or difficult is it to make these changes?

c. Electricity infrastructure (10mins)

Let's talk now about how we power the community, that is, what sources we use to get electricity for our homes and businesses.

[SHOW 7 PICS: natural gas, oil, nuclear, hydro, coal, wind, solar] To move to a low-carbon economy, new infrastructure often needs to be built to generate electricity that produces lower emissions. In your opinion, which of these sources makes the most sense for your community, in terms of generating a low-carbon source of electricity?

PLEASE TYPE YOUR ANSWER INTO THE CHAT SCREEN

MODERATOR TO ASK: Why do you choose that one?

When new energy infrastructure is required, it can happen in different ways. Which of the following do you think makes the most sense for your community? (POLL: Please choose one of the following options and type your answer into the chat screen):

a. A **local** project, developed by your community or a group of neighbouring municipalities

b. A **provincial** project, developed by your province

c. An **interprovincial** project, developed by your province and a neighbouring province

Why do you say that? PROBE: Project costs? Consistency with the rest of province? Control over location/proximity to community?

4. Action/priorities (15 minutes)

Focus of this section: what are the implications for individuals/households and their everyday lives? What tools/actions on the part of the GC do they think will best contribute to the shift?

We've talked a lot about the changes that you are expecting to happen in your community. Of all the things we've talked about, which change are you most likely to take up in the short-term? Why is that?

- What other changes have you made, or are you making right now, to live a low-carbon lifestyle?
  - Why have you chosen to make these changes? Why now?
  - FOR THOSE WHO SAY "NONE" – what are the main reasons you have not made changes to reduce the carbon consumption in your lifestyle?
- Are there any changes you are thinking of making? When do you plan to make these changes? What is holding you back from making these changes today?

There are different ways to help individuals and households with the shift to a low-carbon economy. Here are seven ways that the Government of Canada could promote a low-carbon economy for all Canadians. Please read through and choose three ideas that you feel would be the most effective way to move the dial, that is, to encourage the transition. Now, which idea do you think would be least effective? [POLL – Please type your answers into the chat screen]

- Offer financial incentives to Canadian households to help them embrace change
- Convert waste and residues to solid or liquid biofuels and renewable natural gas
- Fund new technologies to store energy from sources like solar and wind
- Require labelling of the energy performance of homes and buildings for prospective buyers and renters
- Encourage long-distance transportation to shift from road to rail (trains)
- Require all new buildings to achieve net-zero energy
- Replace oil and gas commercial and residential energy with electricity or low-carbon fuels (e.g., wood pellets, wood chips, renewable natural gas)

Why do you like these ideas the most? Why do you like these ideas the least?

5. Industry Impacts (15 minutes)

Focus of this section: what do people envision these changes mean for natural resource industries in Canada?
In Canada, there are 4 main natural resource industries are: nuclear, mining, forestry, oil/gas [SHOW 4 PICS]. I'd like to talk about how they are likely to be affected by the shift to a low-carbon economy.
Based on your impressions, which one of these industries is going to be the most challenging to move to a low-carbon economy? [Please type your answers into the chat screen]

- Why do you say that?
- Do you think there are ways the industry could change to contribute to a low-carbon economy?

Which industry is most likely to see a positive impact from the shift to a low-carbon economy? That is, which industry do you think would be most likely to benefit/expand/grow under low emission conditions? [Please type your answers into the chat screen]

- In what ways do you foresee this industry benefitting?
- Is this an industry that is actively contributing to/supporting the shift to a low-carbon economy, is it holding Canada back, or making no difference?
- [IF HOLD BACK/NO DIFFERENCE]: Do you think there are ways the industry could change to become a contributor?

6. Communications/information needs (15 minutes)

Focus of this section: how should governments communicate with the public about this topic?

- We've talked about changes that need to be made by each of us individually, more broadly in our communities and also in our key industries. Understanding that it will be the Federal Government's job to communicate with Canadians about the importance of these issues, I'd like to hear from each of you regarding those things you think are MOST important for the government to emphasize when they speak to Canadians about transitioning to a low-carbon lifestyle.
    - Please use the chat function to type a few thoughts on those messages, examples, or language you feel are most important for the federal government to use or emphasize when it communicates with Canadians.
    - DEPENDING ON TIMING – MODERATOR TO ASK MOST/ALL OF PARTICIPANTS WHY THEY CHOSE WHAT THEY DID.
- DISCUSS EACH PARTICIPANT SUBMISSION BRIEFLY – Why did you choose that language? Why do you think it will be effective in getting the message across to Canadians?

7. Wrap up (5 minutes)

We have covered a lot today and really appreciate you taking the time and energy to give your opinion. Your input is very important and insightful. To conclude, I wanted to ask you whether you have any last thoughts that you want to give the Government of Canada about today's topic.

THANK YOU FOR PARTICIPATING!

Appendix D: Quantitative survey questionnaire

Environics Research Group

5 March 2019

Natural Resources Canada

Natural Resources in a low-carbon economy

Questionnaire FINAL

Online survey conducted with n=3,400 Canadians 18+;
15-minute average length

LANDING PAGE

Please select your preferred language for completing the survey / Veuillez sélectionner la langue de votre choix pour remplir le sondage.

01–English / Anglais

02–Français / French

Welcome to the survey. Environics Research, an independent research company, is conducting this survey about current issues of interest to Canadians, on behalf of the Government of Canada. The survey will take about 15 minutes of your time.

Your participation is entirely voluntary and all of your answers will be kept completely anonymous. If you wish to verify the legitimacy of this research or to ask technical questions about this survey, please contact Environics at sarah.roberton@environics.ca.

Thank you in advance for your participation.

< PROGRAMMING NOTE: All questions are mandatory unless specified.>

Screening

1. In what year were you born?
   DROP DOWN LIST – SEE QUOTAS

IF UNDER 18 THANK AND TERMINATE

2. In what province or territory do you live?
Select one only
DROP DOWN LIST – SEE QUOTAS

01-British Columbia
02-Alberta
03-Saskatchewan
04-Manitoba
05-Ontario
06-Quebec
07-New Brunswick
08-Nova Scotia
09-Prince Edward Island
10-Newfoundland and Labrador
11-Yukon
12-Northwest Territories
13-Nunavut

3. How do you identify your gender? (This may be different from the information noted on your birth certificate or other official documents)
Select one only – SEE QUOTAS

01-Female gender
02-Male gender
03-Gender diverse
99-Prefer not to answer

Natural resources - general

4. What would you say is the **single** biggest issue Canada faces when it comes to our natural resources?
[OPEN ENDED. INSERT 1 MEDIUM-SIZED TEXT BOX.]
DO NOT SHOW LIST – FOR POST-CODING ONLY

01 – Air pollution/emissions
02 – Water pollution/contamination
03 – Protecting forests, lakes, habitat
04 – Energy costs
05 – Reliable energy supply
06 – Trade issues with US
07 – Softwood lumber
08 – Pipeline approval/need for construction
09 – Pipelines/oil spills/environmental impact
10 – Making sure we have enough resources for future generations
11 – More jobs in natural resources
12 – Marketing our natural resource products
11 – Low oil prices
12 – Climate change
13 – Fracking
14 – Forestry issues
15 – Mining issues

5. When it comes to Canada's natural resources, how would you rate the performance of the **Government of Canada** in each of the following areas? Please use a 10-point scale where "1" means a very poor job and "10" means a very good job.
RANDOMIZE – GRID
   a. Making sure natural resources are developed in a way that respects the environment
   b. Promoting the economic growth of natural resource industries
   c. Striking a balance between environmental and economic considerations
   d. Managing natural resource development so it is sustainable for the future
   e. Making sure new natural resource projects are properly reviewed before being approved
   f. Investing in clean energy and clean technology

A very poor job 1	2	3	4	5	6	7	8	9	A very good job 10	Not sure 99

6. To what extent do you agree or disagree with the following statements about **natural resource development**:
RANDOMIZE – GRID
   a. It provides opportunities for regional employment
   b. It provides employment opportunities for Indigenous Peoples
   c. It provides employment opportunities for women

   01–Strongly agree
   02–Somewhat agree
   03–Somewhat disagree
   04-Strongly disagree
   99-Not sure

7. To what extent do you agree or disagree with the following statements about **natural resource development**:
SHOW IN ORDER – GRID
   a. It benefits my country
   b. It benefits my province/territory
   c. It benefits my local community
   d. It benefits me personally

   01–Strongly agree
   02–Somewhat agree
   03–Somewhat disagree
   04-Strongly disagree
   99-Not sure

Oil sands

8. To what extent do you agree or disagree with the following statements about Canada's **oilsands**?
RANDOMIZE – CAROUSEL (SHOW ONE AT A TIME)
   a. Oilsands development supports Canada's future prosperity
   b. Canada should build pipelines to reduce greenhouse gas emissions resulting from shipping oil by train
   c. New technologies and innovation are making oilsands development more environmentally-friendly
   d. The markets that buy oil from Canada's oilsands must be expanded to countries other than the United States such as those in Asia
   e. Regulations in Canada are sufficient to limit the impact of oilsands development on the environment

   01–Strongly agree
   02–Somewhat agree
   03–Somewhat disagree
   04-Strongly disagree
   99-Not sure

9. For Canadian companies to sell oil to other global markets including those in Asia, infrastructure must be constructed. Which is closer to your point of view about whether Canada should expand railways, port facilities, roads and pipelines:
RANDOMIZE. QUESTION IS NON-MANDATORY. IF CHOOSE NOT TO ANSWER, INSERT PROMPT MESSAGE TO CONFIRM THEY WANT TO SKIP QUESTION.

   01 – Canada **should** expand infrastructure in order to export Canadian energy to markets like those in Asia, because it will help create jobs and economic growth in Canada -- even if there is some impact on the environment.

   02 – Canada **should not** expand infrastructure in order to export Canadian energy to markets like those in Asia, because the environmental impact and the possibility of an accident is too high -- even if it means lost jobs and economic growth.

10. How important a source of energy for Canadian households and businesses do you believe **oil** is likely to be 10 years from now?

   01-Much more important
   02-Somewhat more important
   03-About the same
   04-Somewhat less important
   05-Much less important
   99-Not sure

Mining

11. To what extent do you agree or disagree with the following statements about Canada's **mining** industry?
RANDOMIZE – CAROUSEL (SHOW ONE AT A TIME)
    a. Mining will support Canada's future prosperity
    b. Mining contributes significantly to Canada's economy
    c. Regulations in Canada are sufficient to limit the impact of mining on the environment

    01–Strongly agree
    02–Somewhat agree
    03–Somewhat disagree
    04-Strongly disagree
    99-Not sure

Forests

12. To what extent do you agree or disagree with the following statements about Canada's **forest** industry?
SHOW IN SAME ORDER AS Q10 – CAROUSEL (SHOW ONE AT A TIME)
    a. The forest sector will support Canada's future prosperity
    b. The forest sector contributes significantly to Canada's economy
    c. Regulations in Canada are sufficient to limit the impact of forestry on the environment

    01–Strongly agree
    02–Somewhat agree
    03–Somewhat disagree
    04-Strongly disagree
    99-Not sure

13. Wood can be converted into several solid, liquid or gaseous biofuels such as wood pellets. Forest bioenergy (energy derived from woody biomass) used in Canada is mostly produced from industrial residues. To what extent do you agree or disagree with the following statements about **forest bioenergy**?
RANDOMIZE – CAROUSEL (SHOW ONE AT A TIME)
    a. It is a renewable source of energy
    b. It is a clean and low-carbon source of energy
    c. It is an affordable source of energy
    d. Canada should rely more on forest bioenergy to meet its energy needs

    01–Strongly agree
    02–Somewhat agree
    03–Somewhat disagree
    04-Strongly disagree
    99-Not sure

Nuclear

14. Nuclear energy is an electricity source that provides reliable electricity without carbon pollution (greenhouse gas emissions). It must be operated in a safe manner and nuclear energy produces long-lived radioactive waste that must be carefully managed. To what extent do you agree or disagree that **nuclear energy** should be part of Canada's energy mix?

    01–Strongly agree
    02–Somewhat agree
    03–Somewhat disagree
    04-Strongly disagree
    99-Not sure

15. Small nuclear energy reactors are an emerging area of innovation. Compared to current nuclear power plants, small reactors will have enhanced safety features and could have smaller footprints and produce less waste. To what extent do you agree or disagree that **small nuclear energy reactors** should be part of Canada's energy mix?

    01–Strongly agree
    02–Somewhat agree
    03–Somewhat disagree
    04-Strongly disagree
    99-Not sure

Energy - general

16. Thinking about energy issues in Canada today, how concerned are you about each of the following?
    RANDOMIZE – CAROUSEL (SHOW ONE AT A TIME)
    a. The price you pay for energy
    b. The impact of the energy industry on the environment
    c. A potential decline in American demand for Canadian energy exports
    d. Canada's ability to transition to more clean, renewable energy

    01 - Very concerned
    02 - Somewhat concerned
    03 - Not very concerned
    04 - Not at all concerned
    99 - Not sure

Low-carbon economy

17. Have you seen, heard or read the term "low-carbon economy" recently?

    01–Yes
    02–No SKIP TO INTRO BEFORE Q.19-20
    03–Not sure SKIP TO INTRO BEFORE Q.19-20

18. [IF Q17=01] What does the term "low-carbon economy" mean to you?
    [OPEN ENDED. INSERT 1 MEDIUM-SIZED TEXT BOX.]

For the purposes of this survey, a low-carbon economy is one that will grow Canada's economy while reducing the greenhouse gas emissions that cause climate change. As a result, we'll be using clean electricity to power our homes, workplaces, vehicles and industries, and using energy more efficiently.

RANDOMIZE ORDER OF Q19-20

19. In your view, how important a role does the mining industry play in providing Canada with the materials needed to develop low-carbon energy technologies?

    01–Very important
    02–Somewhat important
    03–Not very important
    04-Not at all important
    99-Not sure

20. In your view, how important a role does the forest sector play in providing Canada with the materials needed to transition to a low-carbon economy?

    01–Very important
    02–Somewhat important
    03–Not very important
    04-Not at all important
    99-Not sure

Note to Reviewers about Max-Diff Analysis

We recommend using a Max-Diff analysis to identify which measures make intuitive sense to Canadians. A straight ranking 1-7 of these measures is very difficult for participants (e.g., hard to judge if a measure should be #4 or #5). The online methodology is ideal for using Max-Diff, which mimics how people make choices in real life, is easier to answer (just have to choose most and least important of a subset of items) and will result in a ranking of all seven measures. We successfully used this approach in a 2016 survey for Environment and Climate Change Canada.

21. [INTRODUCTORY SCREEN] A variety of things could be done to help promote a low-carbon economy for Canada. Over the next few screens, we're going to ask you which initiatives you believe should most guide the Government of Canada's priorities for reaching this goal.

    On each screen, we are going to display three initiatives that you may or may not perceive as important ways to create a low-carbon economy. For each set, we want you to choose the initiative you feel is the **most important** for Canada to adopt and the initiative you feel is the **least important** for Canada to adopt. You will need to click on two different statements before you can advance to the next screen.

    [SHOW ON EACH SCREEN WITH INITIATIVES] Which of the options listed below is the initiative you feel is **most important** for Canada to adopt, and which initiative is the **least important** for Canada to adopt, to achieve a low-carbon economy? (Select one option for each)

    [ADD SCREEN COUNTER: 'This is comparison question X of Y']

    ITEMS RANDOMIZED INTO GROUPS PER MAX-DIFF SOFTWARE

    a. Offer financial incentives to Canadian households to help them embrace change
    b. Convert waste and residues to solid or liquid biofuels and renewable natural gas
    c. Fund new technologies to store energy from sources like solar and wind
    d. Require labelling of the energy performance of homes and buildings for prospective buyers and renters
    e. Encourage long-distance transportation of goods to shift from road to rail
    f. Require all new buildings to achieve net zero-energy (meaning the building produces as much energy as it uses, for example, through solar panels)
    g. Replace oil and gas commercial and residential energy with electricity or low-carbon fuels

Demographics

The following are a few questions about you and your household, for statistical purposes only. Please be assured all of your answers will remain completely confidential.

22. What is the highest level of formal education you have completed?
Select one only

01–Up to high school
02–Some high school
03–High school diploma or equivalent
04–Registered Apprenticeship or other trades certificate or diploma
05–College, CEGEP or other non-university certificate or diploma
06–University certificate or diploma below bachelor's level
07–Bachelor's degree
08–Post graduate degree above bachelor's level
99–Prefer not to answer

23. Which of the following best describes your own present employment status?
Select one only

01-Working full-time
02-Working part-time
03-Unemployed or looking for a job
04-Self-employed
05-Stay at home full-time
06-Student
07-Retired
99–Prefer not to answer

24. How big is the community in which you live? Would you say it is:

01–A rural or small community (with a population below 30,000)
02–A medium-sized community or city (with a population over 30,000 but under 500,000)
03–A large urban centre (with a population over 500,000)

25. Are you…?
Select one only
01-First Nations (status or non-status)
02-Inuk/Inuit
03-Métis
04–A non-Indigenous person
99–Prefer not to answer

26. Which of the following categories best describes your total household income? That is, the total income of all persons in your household combined, before taxes?
Select one only

01–Under $20,000
02–$20,000 to just under $40,000
03–$40,000 to just under $60,000
04–$60,000 to just under $80,000
05–$80,000 to just under $100,000
06–$100,000 to just under $150,000
07–$150,000 and above
99–Prefer not to answer

This completes the survey. On behalf of the Department of Natural Resources Canada, thank you for your valuable input. In the coming months, the results of this survey will be available on the Library and Archives Canada website.