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Natural Resource Issues in a Low-Carbon Economy

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. The priorities of the Natural Resources Canada (NRCan) are:

- natural resource science and risk mitigation;
- innovative and sustainable natural resource development
- globally competitive natural resource sectors

This new edition of the *Natural Resource Issues in a Low-carbon Economy* public opinion research project will provide a fresh understanding of how Canadians situate traditional natural resource sectors and what they understand about the challenges and opportunities for these sectors in moving toward a low-carbon economy, building on what we learned from previous years' research.

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 October 19 and November 4, 2020. Focus groups were held using online conference technology with residents of Toronto, Calgary, Vancouver, Fredericton, Kitimat, Pincher Creek, Pickering and Amherst (two groups per location in English) and Montreal and Baie-Comeau (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, 160 participants were recruited and 125 attended. Participants received a $100 honorarium. Focus group sessions were about 90 minutes in duration.

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

- Large cities include: Vancouver, Calgary, Toronto, Pickering, Montreal, and Fredericton
- Smaller or rural communities include: Kitimat, Pincher Creek, Baie-Comeau, and Amherst
- **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 3,457 Canadians aged 18 and over, from December 17, 2020 to January 5, 2021. 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 $168,430.57 (HST included).

D. Key findings

A. Qualitative research

- Focus group participants were somewhat familiar with the term “low-carbon economy” overall. Those who were unfamiliar with the term understood the concept when it was described to them. Participants’ understanding of a low-carbon economy tended to revolve around decreased reliance on fossil fuel and a shift to “green,” “clean,” or “environmentally friendly” sources of energy. Most, especially those in large urban cities, with the exception of Calgary, saw this is a necessary and positive initiative to address climate change, while others expressed concerns about its impacts to jobs and the economy. Some suggested a shift to a low-carbon economy was already underway.
- Few had heard the term “net-zero by 2050”. When provided with more information, some participants felt the goal was achievable, while others raised concerns about economic impacts, consumer costs as well as Canada’s ability to substantially impact global carbon emissions. Several participants felt they needed more information about the 2050 goal in order to form an opinion. Participants also frequently raised other environmental issues they felt were equally or more important than carbon emissions.
- Most could not say what, if any, impact a low-carbon economy might have one them personally. Most anticipated an increased cost of living and increased travel costs, which some predicted would mean less travel. Some noted the higher cost of electric vehicles and renewable energy technologies such as solar and questioned the affordability, reliability, or return on investment of these technologies. Some said they did not feel their personal actions had a considerable impact on carbon emissions.
- Most participants could not see how a low-carbon economy would impact their workplaces, with some suggesting many industries were doing everything they could to lower carbon emissions. Impacts were most often associated with the oil and gas industry or industries that relied on fossil fuels in their operations, such as the transportation industry. Some expressed concern for increased costs and the impacts of these on the Canadian economy.

- When asked about the impact of a shift to a low-carbon economy on the Canadian economy, participants were split on whether this could be an opportunity to lead the world in developing a strong, modernized economy based on new technology sectors or that it could precipitate an economic down-turn for Canada. Specific concerns included an increased cost of living, job losses and increased costs for imports and exports, with a couple wondering if more industries may choose to leave Canada. Several participants suggested that, with the cost of living a concern already, there is little room or appetite for people to absorb even more expense for everyday goods and services.

- Group participants were asked what actions they had taken to reduce their carbon footprint. Many said they had generally tried to lower their energy consumption by lowering thermostats, installing energy efficient lighting and turning off lights. Those that owned their properties mentioned replacing insulation, windows and doors, and heating and cooling systems. Some expressed appreciation for government subsidy and rebate programs that made it possible to increase the energy efficiency of their homes. Many who had performed energy retrofits on their homes cited cost savings as the primary motivation.

- While a number of participants said they had reduced their use of personal vehicles, others said they had purchased more fuel efficient vehicles. A small number of participants said they had purchased hybrid or electric vehicles, while some said electric or hybrid vehicles would be under strong consideration for their next vehicle purchase.

- Some participants said they had contributed fewer emissions through recycling, buying products with less packaging, buying products that are made locally or in Canada, eating less meat, and growing food at home.

- When considering the impact of a low-carbon economy on communities, most noted potential changes to public, commercial and industrial transportation and the potential for the electrification of these fleets. Those in rural communities were less convinced that their communities could reduce carbon emissions. There was some discussion around improved recycling, encouragement to buy local, and community-specific information to help residents lower their carbon emissions. Regulations to reduce carbon-emissions and incentives were also noted. A number of participants also said they felt their communities and local industries had already contributed significantly towards lowering carbon emissions.

- In terms of specific energy resource industries, participants had difficulty reconciling oil, nuclear, and forest biomass with a low-carbon economy. The view that oil has a place in a low-carbon economy is hampered by its strong association with carbon emissions; moreover, there is skepticism that Canada will shift away from oil because of its importance as an economic driver. For nuclear, participants found it difficult to overcome their safety concerns, despite acknowledging that the lack of carbon emissions makes nuclear a natural fit to achieve a low-carbon economy. There was limited knowledge of forest biomass, but when it was described, participants tended to focus on how trees would be cut down, often producing negative emotional reactions. Similarly, there was low awareness and understanding of carbon capture and storage. As a result, participants focused on the unknown risks associated with storing carbon underground, rather than on the potential for this technology.

- Participants were more positive toward hydroelectricity, natural gas, and alternative fuels like biodiesel, ethanol, and hydrogen and their potential role in a low-carbon economy. Nonetheless, they noted drawbacks, including concerns about the environmental impacts of hydroelectricity and natural gas extraction, and about depleting the land by growing crops to produce biodiesel or ethanol.
- There were mixed views about the role of mineral mining in a low-carbon economy. Although initial impressions were generally negative, with some mentioning environmental disturbance, pollution of soil and water, and threats to remote and Indigenous communities, sentiment tended to shift more positively when participants considered the value of critical minerals and metals in alternative energy technologies. Some indicated that mining is a good source of jobs and economic growth and can provide an important contribution to a low-carbon shift. Participants also mentioned issues such as environmental disturbance, pollution of soil and water, and threats to remote and Indigenous communities.
- Participants suggested that the Government of Canada use clear and positive communication to help Canadians understand the implications of climate change, the importance of a low-carbon economy, and what more individuals can do to effect change.
- Many cited a desire for more information on actions to date, the results of these and specific plans for the future, with some suggesting a need for return on investment analysis. Financial incentives are also seen as a critical aspect in motivating and supporting Canadians in the transition. Other suggestions for messaging aimed at Canadians included highlighting the potential consequences of inaction, emphasizing the need to build a better world for future generations.
- Some participants took this opportunity to suggest that industry has a critical role to play in reducing carbon emissions, as a major source of emissions and an entity that stands to be broadly impacted by the shift to a low-carbon economy. Some suggested that the federal government should work together with other levels of government and industry to find feasible solutions.
- Some participants wanted to see a broader objective that included environmental impacts and focused on reducing product as well as energy consumption and more recycling.

B. Quantitative research

- When asked to name the single biggest issue facing natural resources, Canadians' most top-of-mind concerns are ensuring Canada has enough resources for future generations (18%) and pollution from resource extraction (17%), the latter of which increased since 2018/19 (up 9 points). In turn, fewer than before mention the need for pipeline approvals or construction (2%, down 6 points) (this survey took place before the new US administration cancelled the Keystone XL pipeline).
- Fewer Canadians rate the federal government's performance as good compared to 2018/19 on promoting the economic growth of natural resource industries (31% vs. 35%), investing in clean energy and clean technology (29% vs. 35%) and making sure natural resources are developed in a way that respects the environment (29% vs 37%). More Canadians rate the federal government's performance as

poor as opposed to good on implementing a plan to get Canada to net-zero emissions (37% vs 25%) and striking a balance between environmental and economic considerations (37% vs 24%).

- Eight in ten are at least somewhat concerned about the price they pay for energy (80%) and the impact of the energy industry on the environment (80%), although fewer than four in ten are very concerned in either case (39% and 35% respectively). Compared to 2018/19, this marks a slight decrease in concern about the price of energy (down 3 points) but an increase in concern about the environmental impact (up 6 points). Canadians are less concerned about the future of the energy job market in comparison, although 57 percent are at least somewhat concerned about this, with Quebec (41%) expressing the lowest concern. The exception is in Alberta and Saskatchewan, where energy jobs (76% and 82% respectively) are of greater concern than is the environmental impact of the energy industry (64% and 69% respectively).

- A large majority of Canadians agree solar (91%), wind (87%), and hydroelectric dams (76%) are environmentally friendly. Just over half of Canadians agree that natural gas (58%) and hydrogen fuel (57%) are environmentally friendly. Canadians are less convinced about nuclear energy (43%) or biodiesel fuel (42%), with almost as many disagreeing that nuclear energy (45%) and biodiesel fuel (40%) are environmentally friendly. Fewer than one in four Canadians consider oil, whether derived from offshore (23%) or the oil sands (19%) as environmentally friendly.

- Canadians generally recognize that natural resource extraction plays a critical role in Canada's economy. This is indicated through their majority-level agreement that the Trans Mountain pipeline expansion will create economic opportunities and good quality jobs (70%), agreement that critical minerals and metals mining as essential to Canada's economy (77%) and a source of good quality jobs (73%), as well as the strong sense that forests are a source of wealth for Canadians (90%). Fewer, however agree that Canada uses innovative technology to reduce the impact of mining on the environment (49%), or that Canada protects its forests with science-based management practices (60%).

- Validating the findings of the focus group research, more than half of Canadians say they are at least somewhat familiar with net-zero greenhouse gas emissions (61%), a low-carbon economy (56%) and the Paris Agreement on Climate Change (54%), but only one in ten are *very familiar* with any of these topics.

- Canadians are optimistic that the transition to a low-carbon economy will create good quality jobs (62% agree) and benefit Indigenous communities (50%) and communities that depend upon carbon-intensive industries (50%). Moreover, they consider it important for the federal government to support initiatives to ease the transition, including helping carbon-dependent communities develop more diverse economies (83%) and funding skill development for individuals (82%).

- In terms of building support for the transition to a low-carbon economy, Canadians believe the most compelling arguments are leaving a clean environment for the next generation (51%), ensuring Canada is energy self-sufficient (49%), to avoid the consequences of climate change (48%) and improving the health of Canadians through cleaner air (45%). Fewer felt messages about job creation (26%) or the economic benefit of being a world leader in emerging industries (21%) were very strong arguments.

- Canadians also believe the solution to greenhouse gas emissions needs to come from industry over individuals. Canadians believe shifting industrial and commercial heating processes (79%) and vehicles (78%) would have more impact on climate change (significant or moderate) than shifting personal vehicles (72%) or heating processes (68%) to electricity or other low-carbon fuels. Similarly, Canadians feel that increasing the energy efficiency of industrial and commercial buildings (84%) would have more significant or moderate impact on climate change than increasing the energy efficiency of multi-family apartments or condominiums (73%) or single-family homes (67%). This aligns with the focus group findings, which suggest that Canadians often feel they have done what they can to reduce their own personal greenhouse gas emissions and that industry needs to play a bigger role if progress is to be achieved.
- Regional differences are evident in perceptions of Canada's natural resource industries. While concerns about natural resource conservation and pollution are top-of-mind for Canadians in all regions, these topics are relatively less prominent in Alberta and Saskatchewan. Throughout the survey, residents of these two regions consistently express viewpoints that reflect the economic importance of the oil and gas sector in their region. The survey also indicates that attitudes vary along demographic lines, with men, older Canadians (55+), and those with high school or college education expressing relatively less concern about the environment and climate change, and relatively more concern about potential impacts to natural resource industries and the jobs they create.

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=3,457 unless otherwise specified.

I. Detailed findings – qualitative phase

A. Overview of low-carbon economy and its perceived impact

Perceptions of low-carbon economy

Group participants were asked to discuss their perceptions of a "low-carbon economy." The term was somewhat familiar to participants overall, although some who were not familiar with the specific term understood the concept when it was described to them. Participants' understanding of the term typically revolved around decreased reliance on fossil fuel, with many describing it as a shift to "green," "clean," or "environmentally friendly" sources of energy. Some participants specifically related this to, alternative forms of energy such as wind, solar, hydro, nuclear and geothermal power and the increased adoption of electric vehicles. Some felt the transition had already begun.

Many participants perceived the concept of a low-carbon economy as both positive and necessary to mitigate climate change impacts. Some felt a transition to a low-carbon economy would benefit Canada's economy long-term, with some suggesting that Canada needs to lead or keep up with other countries in order to reap the economic gains that low-carbon technologies will provide. Other specific benefits included less pollution and a sustainable world for future generations.

Some participants discussed the potential for negative economic impacts on Canada's oil and gas industry and the cost of living. In some instances, participants expressed pessimism about the capacity for industry and individuals to make the necessary changes, suggesting that carbon reduction goals are not realistic. Some participants felt that new technologies may not be less carbon intensive from cradle to grave or that these technologies will be less reliable and some felt the considerable cost of the transition may not provide a return on investment. Others suggested that Canadian efforts do not stand to have much impact globally, if larger countries do not make efforts as well.

Perceptions / Understanding of "net-zero emissions" by 2050

Few had heard the term "net-zero by 2050". While some participants understood the term described it as either reducing and offsetting carbon emissions, many others found it difficult to understand or explain. Examples of other commitments like the Paris Accord came up in some of the groups.

While participants generally accepted a low-carbon economy as necessary and some felt Canada had already taken steps in this direction, some participants felt that 2050 was not soon enough to halt imminent dangers of climate change. For many others, a deadline of 30 years raised concerns about personal costs and impacts to the economy. Several participants felt they needed more information about the topic before they could form an opinion.

Some felt the target would prove aspirational and a few questioned whether renewable and clean energy technologies were sufficiently advanced or available to permit a transition within the timeframe, with a couple expressing concerns about a reasonable return on investment. Several participants raised other environment concerns they saw as equally or more important, with a few seeing a conflict between an increased use of plastics and a reduction in carbon emissions. A few participants were again not convinced that Canada's contribution to the reduction of global carbon emissions would be globally significant.

Individual / household impact

When asked about the individual or household impact a shift to a low-carbon economy would have, participants frequently had difficulty coming up with a clear vision of what this would look like. The following outlines the main themes raised:

- **Cost**. The most commonly mentioned theme was a concern about cost, with widespread agreement that households will bear the cost of a shift to a low-carbon economy through increased prices on everyday goods, utilities, and travel. After acknowledging the impact on household costs, some also mentioned the possibility that costs could eventually decrease and normalize as technologies (e.g. electric cars, solar panels, etc.) become widely adopted. Some participants envisioned regulatory restrictions or fees for personal energy consumption and carbon emissions.
- **More energy efficiency**. Reductions in energy consumption for transportation, home heating, and electricity were also mentioned frequently by participants.
- **Personal lifestyle changes**: waste reduction, reusable bags, less meat consumption, and buying local also generated discussion in several groups.
- **Benefits**. In addition to the costs and lifestyle adjustments participants expect, many also mentioned benefits that they anticipate as a result of a shift to a low-carbon economy, like cleaner, less polluted air, better public transportation options, and new jobs in sectors that emerge to support the shift, such as alternative energy and local production of goods.
- **Effectiveness**. Some participants were not sure that individual or household actions to reduce carbon emissions would actually have the desired impact. For some, renewable energy options are not seen as readily available, dependable, or affordable, leading to skepticism about the real potential for these alternatives.

Workplace impact

Many group participants could not immediately see how their own industries or workplaces might be impacted by the low-carbon economy. Many felt that their industries would remain in demand, but could not envision ways in which these industries could reduce their carbon emissions, with some feeling industries had done as much as they could. Some suggested industries could reduce waste.

Participants did identify several examples of workplaces and industries that they felt would be most impacted by a low-carbon economy:

- **Transportation and travel** were at the forefront of participants' consideration. Travel, personal and public transportation, and the transport of goods were all common themes mentioned. Tangential to this topic, the issue of auto manufacturing and auto repair came up as an example of a specific sector that would see changes as consumers move to adopt electric vehicles, affecting jobs and communities where manufacturing takes place.
- **Agriculture** was another topic that was raised in some rural groups. There was the perception that the agriculture industry tends to be high in carbon emissions, making it a sector likely to be widely impacted by a low-carbon economy. Participants also discussed the trade-off between short-term, and possibly costly expenditures for new technology, and potential long-term savings as a result of low-carbon technology for this industry. More localized food supply chains were also seen as a potential emissions-reducing shift that would change the agriculture industry.
- **Buildings**. Some participants mentioned issues related to buildings, in the context of both construction jobs and consumer interest in greener office procurement and energy efficiency.

- **Financial industry**. Another type of work that was mentioned was the financial sector, where some investors are beginning to show interest in companies' environmental records in addition to their financial performance.
- **Other** types of industries and workplaces where participants expect to see changes include: manufacturing, which often relies on oil as a major component of goods as well as energy; mining industries that use fossil fuel to operate equipment; and, the oil and gas sector as a whole.

Canadian economy

When asked about the impact of a shift to a low-carbon economy on the economy as a whole, participants were split on whether this would result in an economic opportunity or precipitate an economic down-turn for Canada. There was broad consensus that moving to a low-carbon economy will mean major expenses that will eventually be passed on to the consumer. Specific concerns included an increased cost of living most often, with other mentions including job losses and increased costs for imports and exports, with a couple wondering if more industries may choose to leave Canada. Several participants suggested that, with the cost of living a concern already, there is little room or appetite for people to absorb even more expense for everyday goods and services.

Flowing from the earlier discussion about the impact of a low-carbon economy on workplaces and industries, participants suggested that a low-carbon economy could jeopardize many jobs, and that people would need to be re-trained and re-deployed as a result, particularly in the oil and gas sector.

On the positive side, some participants felt that the adoption of low-carbon technologies could be an opportunity for Canada to lead the world in developing a strong, modernized economy based on new technology sectors. As well, some participants felt the lifestyle changes and eventual economic gains of a low-carbon economy could ultimately lead to a higher standard of living for Canadians.

The issue was raised of how to best transition the economy and encourage adaptation at a personal and societal level. Participants expected the low-carbon shift would have an uneven effect, with some regions and some industries feeling the impact more quickly and more acutely than others (e.g. carbon-heavy industries in western Canada, export-based industries). There were also concerns that the transition would encounter resistance should economic or climate change improvements not be clearly evident.

Some participants expected the government would need to subsidize industries or consumers to ease the transition. There were mixed views about whether it would be better to act fast, with costs incurred all at once, or spread the costs out over a longer period of time to give people a chance to adapt.

Some group participants felt that Canada would experience disproportionately negative economic impacts compared to other countries that are not taking action to address climate change. Moreover, some suggested a net benefit would not be realized if Canada were to continue importing goods from countries with less stringent policies around carbon emissions.

What participants have done to help shift to a low-carbon economy

Group participants were asked about their own efforts to help make the shift to a low-carbon economy, and whether they had taken measures such as reducing energy use, upgrading heating/cooling and insulation, replacing windows and doors, or choosing fuel-efficient vehicles or public transportation.

- Participants most often mentioned smaller personal efforts to reduce their carbon footprint. Turning off lights and lowering the thermostat were mentioned across groups regardless of income level or region.

Similarly, home ownership was not a barrier to changes like switching to LED bulbs, or making minor improvements to doors and windows to reduce heat loss.

- Transportation choices were widely identified as a crucial way to lower carbon emissions. Some participants indicated that they had purchased a more fuel-efficient vehicle, given up at least one household vehicle or chosen a car-free lifestyle in favour of car share programs, public transportation, walking or bicycling. A small number of participants have purchased hybrid or electric vehicles, and some said electric or hybrid vehicles would be under strong consideration for their next vehicle purchase.
- Those that owned their properties mentioned replacing insulation, replacing windows and doors, replacing heating and cooling systems and installing geothermal heating. A small number of participants mentioned obtaining a blower door test and purchasing ENERGY STAR appliances. In addition to giving them a sense of personal contribution to addressing climate change, many mentioned tangible benefits like reduced bills and more comfortable homes. Some expressed appreciation for government subsidies and rebates that helped to increase the energy efficiency of their homes.
- Some participants mentioned buying products with less packaging, buying products that are made locally or in Canada which they felt lowered transportation carbon emissions, eating less meat, and growing food at home. These types of efforts were considered smaller and easier to do incrementally.

Obstacles to doing more to reduce carbon footprint / shift to a low-carbon economy

Cost was the most cited barrier to carbon emissions reduction. Participants who rented their properties felt they had limited options in terms of its energy efficiency. Participants also often noted that change can be difficult, inconvenient or expensive, and suggested the shift to a low-carbon economy may be particularly unappealing for those who do not feel immediately impacted by climate change, and that society relies heavily on consumerism.

Some who had performed energy retrofit renovations or purchased energy efficient appliances said they had done so to save money rather than lower carbon emissions. A few participants noted they would not have done so without the available subsidies or if it had not been necessary.

A few participants felt they would need more information on how to lower their greenhouse gas emissions. Further knowledge barriers included a lack of awareness of grant and subsidy options, time limitations, and an unease in attempting to execute energy retrofit upgrades without the appropriate expertise.

With regard to transportation, a majority said they could not or would not consider public transportation because it would increase the length of their commute, reduce their availability to meet personal and family needs and could potentially increase their chances of contracting COVID-19. Many residing in rural areas pointed out they did not have access to public transportation.

For a number of participants, work and general lifestyle (frequent travel, owning a cottage, children's activities) made a personal vehicle necessary. Limited range, availability of charging stations, both in public areas and at apartment buildings or condos were noted as a barrier to electric vehicle uptake. Participants in rural areas mentioned a lack of reliable public transit options, and a greater need to drive longer distances as reasons for their continued use of gas-powered personal vehicles.

Some participants suggested that electric vehicles are costly to buy new, and not widely available in the used market. Some were also unconvinced that savings on gas would be worth the cost of the electric or hybrid vehicle over its lifetime, with a few expressing concerns about what is done with electric batteries once these have been expended. A few participants across groups suggested commercial and industrial transportation contributed the most emissions.

Many participants indicated they felt they had done what was within their capacity to do and did not feel there was much else they could do to reduce their personal carbon footprint. Further, some said they would like governments and industries to lead by example and increase their own efforts, with a few suggesting such actions would have a greater impact in reducing Canada's overall carbon emissions.

Low-carbon Economy at the Community Level

After discussing what low-carbon means at the personal and household level, groups were asked to talk about community level efforts and impacts. There was some discussion around improved recycling, encouragement to buy local, and community-specific information to help residents lower their carbon emissions. Regulations to reduce carbon-emissions and incentives were also noted. A number of participants also said they felt their communities and local industries had already contributed significantly towards lowering carbon emissions.

The conversation tended to revolve around a few overarching themes:

Buildings and infrastructure

- Participants, and particularly those from large cities, anticipate an increased use of solar panels, rooftop gardens, and communities designed to be more walkable or bikeable with amenities and workplaces in closer proximity to residential areas.
- Changes to buildings were also discussed, such as new builds designed to high standards (e.g., LEED certification) and older buildings retrofitted to become more efficient. Some specifically mentioned that both industry and government need to reduce energy consumption in buildings, lighting, and other infrastructure.

Transportation in the community

- Participants often anticipated changes to public transit both in terms of the efficiency of the vehicles and expansion of public transit systems overall. Some anticipate increasing use of electric and hybrid vehicles for public transportation, school buses and other public fleets.
- Participants discussed battery-powered vehicles running out of power in heavy traffic and gridlock, and some suggested communities need to make charging stations more widely available. Some participants, particularly those residing in rural or remote areas, felt electric vehicles are not reliable over long distances and in cold weather and are not a feasible alternative.
- Many participants, particularly in larger cities, discussed ways that cities might discourage personal vehicles by making it more difficult or costly to bring such vehicles into the core.
- Participants in smaller communities frequently mentioned the poor availability (or unavailability) of public transportation both within their community, and to other communities.

Energy generation

- Some participants anticipate changes to the energy grid, with more alternative energy sources coming online as Canada shifts to a low-carbon economy.
- Overall, many tended to believe the energy sources powering Canada's cities are mostly clean and low-carbon already.
- Some were skeptical that renewable energy sources would have a positive impact on carbon emissions, offer good paying jobs and long-term benefits to the local economies.

Benefits and drawbacks for the community. For the most part, participants from larger cities envisioned the community impact of a low-carbon economy in positive terms, imagining slight changes to the way cities

function and the way people live within them. These urban residents tended to feel more removed from major polluters like factories and resource industries and only rarely discussed the carbon implications of manufacturing and transporting consumer goods to their communities.

Participants from smaller towns and rural areas were less optimistic about change at the community level, pointing out the challenges inherent in feeding and fueling communities that are small, remote, and economically reliant on resource extraction. These groups were also more likely to discuss the community impact of lost jobs in manufacturing and energy sectors.

Costs and value of the low-carbon shift. Along the same lines, while participants in all groups tended to agree there would be significant costs involved in the low-carbon shift, those from smaller towns were less convinced about the long-term benefits of that investment. In some groups there was a heightened sense of anxiety about implications for jobs, rising taxes, and increased energy costs.

Many participants suggested that governments have a role to play in helping communities make the low-carbon shift, including subsidizing costs, regulating industry, and educating citizens about how they can contribute. Participants from smaller communities suggested funding support from the provincial or federal government would be essential.

B. Canada's Resource Industries in a Low-carbon Economy

In the second half of each focus group, participants discussed various resource industries and how they see them fitting into a low-carbon economy.

Hydroelectricity

Across all groups, participants generally saw hydroelectricity as a relatively clean, low-carbon form of energy. Relative to other industries, participants were easily able to come up with a number of positive aspects of hydroelectricity, such as the longevity of existing hydroelectric infrastructure, its wide availability in some parts of the country, its affordability and the fact that hydroelectricity is generated within Canada, reducing our need to import energy from other countries. Group participants were also generally well-versed about the drawbacks of this form of energy generation, such as environmental and ecological impacts and loss of arable land from flooding. The up-front cost of dam construction, and detrimental impacts on Indigenous communities were other concerns raised about hydroelectricity.

Oil

Generally group participants noted that, while oil extraction and consumption are major contributors to carbon emissions in Canada, there was unlikely to be a quick transition away from our oil dependence because of its widespread industrial and household use, and its significance as an economic driver for Canada.

Many participants struggled to see a place for oil in a low-carbon economy, describing it as a contradiction. While a handful of participants felt strongly for or against the oil industry in Canada, most participants expressed a more balanced attitude. Many felt that oil would better fit into a low-carbon economy if technology could make it cleaner or reduce the emissions from its production and use, though others were concerned about its impact on the environment.

In terms of transitioning away from oil, jobs and the economy were top of mind concerns. While participants mainly identified these jobs as centred in western Canada, concerns about the impact to the economy were not limited to participants from western communities. Some participants noted that more oil would need to be imported if not produced in Canada.

Other concerns raised included Canada's ability to compete with other oil-producing countries where oil is easier to extract or has fewer environmental restrictions, Canada's ability to reduce oil dependency while still

building pipelines, and the need to link subsidies for Canadian oil producers to investments in carbon reduction research and technology.

The need for oil in manufacturing plastics also came up in discussion. Some participants pointed out that, while many plastic products are being replaced by alternatives, it will be harder, if not impossible, to replace oil as a material in plastics.

Natural Gas

Most participants described natural gas as a cleaner source of energy than oil, and felt it has a place in a low-carbon economy but ultimately is still a non-renewable fossil fuel and a source of carbon emissions.

Methods of natural gas production were mentioned as drawbacks on a few counts, including the energy required to extract and compress natural gas, and the environmental impacts, including fracking. Those in communities with natural gas operations indicated that it contributes jobs and consumer spending to the local economy, but nonetheless also had some concerns about environmental damage and safety issues around natural gas extraction, as well as questions around land rights issues related to natural gas operations.

Some participants felt natural gas is a less expensive source of energy for home heating, and appliances compared to electricity. Others discussed natural gas as an effective replacement for coal burning electricity generation plants.

Carbon Capture and Storage

There was low overall awareness of the technology. While some participants felt it sounded good in theory as part of a low-carbon economy, most expressed concern about carbon being compressed and put into the ground and questioned the long-term health and environmental risks associated with the storage. Some questioned what, if any, return on investment could be found in this technology and felt there were many better options. In several instances, participants suggested that natural carbon sinks such as forests should be our primary means of removing carbon from the atmosphere. It was also suggested that it would be preferable to avoid releasing carbon into the atmosphere in the first place, and that technology like carbon capture is merely a band-aid solution used to cover rather than solve the problem.

Critical Mineral Mining

Participants had varying levels of awareness on the subject of mineral mining, but in general many felt mining to support the production of alternative energy technologies (e.g. solar panels, batteries, etc.) is a necessary evil that could be mitigated by improved, low-carbon methods of extraction. Some indicated that mining is a good source of jobs and economic growth and an aspect of a low-carbon shift.

Participants raised concerns about the potential consequences of mining; in addition to the energy required to extract and process mine products with some wondering whether renewable technologies would actually lower overall emissions cradle to grave. Participants also mentioned issues such as environmental disturbance, pollution of soil and water, and threats to remote and Indigenous communities.

In most groups, participants raised the idea of recycling electronic components or re-processing mine tailings to obtain minerals in a more sustainable way, noting that minerals are not a renewable resource. Some participants were aware of ways that mining technology has already advanced to be less carbon intensive and safer for the environment.

Renewable Fuels

When asked about alternative fuel sources like hydrogen, biodiesel, and ethanol, group participants had low overall awareness.

Most commonly, participants offered recycled cooking oil as an example of a renewable fuel they had heard about. Some participants were aware that ethanol is used as an additive in gasoline in Canada and other countries.

Participants frequently raised concerns about how biodiesel and ethanol are produced, because these fuel sources use land that might otherwise be used for growing food crops; they would prefer energy be conserved rather than "using up" land to produce energy, even if it is renewable.

Some noted the lack of current availability of these fuels and questioned whether they could provide a return on investment, with a few expecting these fuel sources would be more expensive. Some expressed uncertainty that these fuels could be as reliable as fossil fuel-based equivalents in vehicles, or pointed out these fuels still result in some carbon emissions when they are burned.

There was limited discussion about hydrogen as a fuel source because, while some participants had awareness of it, they did not see it as ready for widespread use.

Forest Biomass

Upon being read the description "*Forest biomass includes all parts of the tree, not only the trunk but also the bark, the branches, the needles, or leaves, and even the roots. Biomass can be converted into solid, liquid, or gaseous biofuels that can then be burned for energy or used as fuel substitutes for transportation or industrial processes. Forest biomass is increasingly being used to make a wide variety of bioproducts, including chemicals, textiles, personal care products, and other engineering wood products*", some felt these products could be part of a strategy for a low-carbon economy.

Some participants could see the potential in this renewable fuel source if care is taken to replant trees and manage forests responsibly. Some participants mentioned that lumber and pulp industries currently result in some waste from trees that could perhaps be better used as fuel. The concept of using the whole tree was sometimes likened to hunters using the whole animal. Others pointed out ways that forestry products are finding a place in carbon reduction efforts as a biodegradable, renewable replacement for plastic.

Many participants expressed a negative emotional reaction to the concept of forest biomass and related it to deforestation and ecosystem disruption, with some suggesting that, in the context of a low-carbon future, it is counterintuitive to cut down trees for fuel instead of leaving them to absorb carbon from the atmosphere. Others noted that burning trees still results in emissions.

Nuclear Energy / Small Nuclear Reactor (SMRs)

Although nuclear is widely understood to be a non-emitting energy source, this did not offset concerns, and some participants were strongly opposed to the concept of nuclear energy, and felt Canada has better, more widely available energy options.

Concerns related mostly to the storage of nuclear waste and its implications for future generations, with some also mentioning historical nuclear accidents.

There was some consensus among groups that nuclear energy can be safely managed and may have the potential to be a reliable source of clean energy for the future. Some felt that nuclear should take precedence over other forms of energy, particularly fossil fuels.

On the topic of small modular reactors (SMRs), participant were told these are an emerging area of nuclear energy innovation, in Canada and around the world. SMRs will have enhanced safety features, a smaller footprint and produce less waste than traditional nuclear energy reactors.

Very few participants had much knowledge about this technology, but many felt it sounded like a promising option for the future. Concerns remained, however, and a few participants also noted that uranium is not a

renewable resource and that expanded use of nuclear energy would create more waste, compounding existing storage issues. Others pointed out that SMRs, by design, would cause less damage if something does go wrong.

Some participants suggested that education would be required to reduce negative perceptions of nuclear energy. Some participants liked that SMRs could be deployed at a smaller scale in communities that don't require the capacity of a large generating station, and in places where other energy sources are difficult to build or access.

Climate Change Impact on Resource / Energy Industries

Most groups had limited insight into the impact climate change will have on Canada's resource and energy industries, but there were some common threads on this topic:

- Most groups mentioned forestry as an area that stands to be gravely impacted by climate change, due to increased drought and forest fires.
- In several groups, participants mentioned the possibility of hydroelectric generating facilities being impacted by higher water levels due to changing weather patterns and the melting of polar ice caps.
- Concerns were raised about catastrophic weather events or earthquakes damaging nuclear facilities, or oil industry extraction and transportation infrastructure, causing safety hazards, disruption to energy supply, and environmental damage.
- Other potential impacts mentioned included changes to the wind required for wind energy, increased regulations on resource extraction as a way to combat climate change, and increased demand for energy to heat and cool homes in regions where the climate becomes more extreme.
- Climate change is also seen as increasing negative public perceptions of these industries, in particular the oil industry.

C. Government of Canada Communications / Information Needs

To wrap up the groups, participants were asked to suggest messaging the Government of Canada could use to communicate to Canadians the importance of making changes to shift to a low-carbon economy. Some participants mentioned an interest in more information on the Government's actions so far, its plans for the future, and evidence that these actions are worthwhile. Some wanted to see a broader objective that included environmental impacts.

Overall, participants tended to favour positive, motivational messages with clear, easy to understand language, possibly augmented with visual aids like infographics or online videos, and options to find out additional information.

Several prominent themes emerged in the discussions:

- Participants frequently suggested messaging that mentions **future generations** or **building a better future**, imploring Canadians to consider how their children and grandchildren will be impacted by climate change. Many of the messages suggested by group participants included suggestions of individual level changes to household energy consumption, diet, shopping habits, and transportation.
- Less frequently, participants recommended wording with a greater sense of urgency and warning about the **future consequences of inaction**, suggesting that Canadians need to see eye-opening predictions based on real science in order to understand what climate change will mean for the future.
- Another frequent theme was **incentivization**. Participants suggested the government needs to help Canadians directly by providing subsidies and rebates to offset the personal expense inherent in the shift to a low-carbon economy. Some suggested messaging that highlights more immediately tangible benefits, like lower energy bills, health improvements, and new job creation.

- **Education** was also mentioned frequently, with participants suggesting that beyond being aware of the consequences of climate change, Canadians need to understand how a low-carbon economy will work, how it will affect them, and **what more they can do** to make a difference.
- Some participants suggested the government needs to encourage a shift in **attitudes and values**, encouraging Canadians to choose quality of life over consumerism and economic growth.
- Participants would like the government to demonstrate that **industry is also pulling its weight** in the effort to combat climate change. Another point raised was that the Government of Canada needs to show Canadians how it is a leader in the change effort by explaining or demonstrating what it is doing, and showing return on investment. Some felt that the federal government has a responsibility to work with **governments at all levels together with industry** to effectively navigate the complexities of a low-carbon future.

II. Detailed findings – quantitative phase

A. General impressions of natural resources

Top natural resource issue

Canadians identify, sustainability and environmental pollution as the primary issues facing Canada's natural resources.

When asked to consider the biggest issue Canada faces when it comes to natural resources, Canadians mention making sure we have enough resources for future generations (18%) and pollution from resource extraction and distribution (17%) most. A wide range of other issues are mentioned by seven percent or fewer Canadians. While the range of responses is overall very similar compared to 2018/19, Canadians express more concern about pollution caused by natural resource extraction (17% vs. 8% in 2018/19), and less concern for the need for pipeline approvals/construction (2% vs. 8% in 2018/19).

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

Biggest natural resource issue	2020/21 Total (n=3,457)	2018/19 Total (n=3,444)
Making sure we have enough resources for future generations / sustainability	18%	14%
Pollution from extracting and distributing natural resources	17%	8%
Climate change/global warming	7%	7%
Selling raw resources cheaply/import finished products at high prices	7%	3%
Replacing fossil fuel with clean/renewable resources	6%	3%
Water pollution/contamination/fresh water supply	6%	3%
Government intervention/politics working against oil industry	6%	4%
Foreign control of our resources instead of Canadians benefiting from them	5%	3%
Marketing our natural resource products	5%	6%
Protecting forests, lakes, habitat	5%	6%
Oil/gas industry (unspecified)	3%	4%
Pipeline approval/need for construction	2%	8%

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

Those living in Alberta and Saskatchewan mention sustainability of resources and pollution from resource extraction and distribution somewhat less often in comparison to other provinces. Respondents in Quebec mention concerns about pollution from natural resource extraction and distribution (25%) more frequently compared to those in other provinces.

Performance of federal government on natural resource issues

Canadians hold mixed views about the federal government's performance on natural resource initiatives, with roughly similar proportions who give positive, neutral and negative ratings in each area.

Fewer Canadians rate the federal government's performance as good when compared to 2018/19 on promoting the economic growth of natural resource industries (30% vs. 35%), investing in clean energy and clean technology (30% vs. 35%) and making sure natural resources are developed in a way that respects the environment (29% vs 37%). More Canadians rate the federal government's performance as poor as opposed to good on implementing a plan to get Canada to net-zero emissions (37% vs 25%) and striking a balance between environmental and economic considerations (38% vs 24%) compared to 2918/19.

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	2018/19 Good job (7-10)
Promoting the economic growth of natural resource industries	30%	32%	30%	8%	35%
Investing in clean energy and clean technology	30%	35%	29%	6%	35%
Making sure natural resources are developed in a way that respects the environment	29%	33%	32%	6%	37%
Implementing a plan to get Canada to net-zero emissions	25%	31%	37%	7%	N/A
Striking a balance between environmental and economic considerations	24%	33%	38%	5%	31%

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.

Government performance on natural resources issues

% Good Job (7-10) by Region

Government performance on natural resource issues	Canada	BC	AB	SK	MB	ON	QC	AT
Promoting the economic growth of natural resource industries	30%	34%	**20%**	**18%**	27%	30%	33%	33%
Investing in clean energy and clean technology	30%	28%	**23%**	**20%**	26%	31%	32%	35%
Making sure natural resources are developed in a way that respects the environment	29%	30%	29%	**21%**	27%	29%	29%	32%
Implementing a plan to get Canada to net-zero emissions	25%	26%	23%	**18%**	27%	25%	25%	30%
Striking a balance between environmental and economic considerations	24%	23%	**19%**	**14%**	21%	24%	27%	26%

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.

B. Energy

Perception that energy sources are environmentally friendly

Canadians largely view solar, wind, and hydroelectric energy as environmentally friendly. Fewer than one-quarter of Canadians say the same of the oil sands and offshore oil and gas.

A large majority of Canadians agree solar (91%), wind (87%), and hydroelectric dams (76%) are environmentally friendly.

While just over half of Canadians agree that natural gas (58%) and hydrogen fuel (57%) are environmentally friendly, it is worth noting that one in three said they were not sure about hydrogen (27%).

Canadians are less convinced about nuclear energy (43%) or biodiesel fuel (42%), with almost as many disagreeing that nuclear energy (45%) and biodiesel fuel (40%) are environmentally friendly.

Fewer than one in four Canadians consider oil, whether derived from offshore (23%) or the oil sands (19%), as environmentally friendly.

Agreement that the following energy sources are environmentally friendly

Energy Source	Net: agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
Solar energy (n=1,781)	91%	64%	27%	4%	3%	2%
Wind energy (n=1,779)	87%	52%	35%	6%	4%	3%
Hydroelectric dams (n=1,779)	76%	32%	44%	12%	3%	8%
Natural gas (n=1,780)	58%	14%	44%	25%	10%	7%
Hydrogen fuel (n=1,775)	57%	20%	37%	11%	5%	27%
Nuclear energy (n=3,457)	43%	14%	29%	22%	23%	12%
Biodiesel fuel (n=1,776)	42%	7%	35%	26%	14%	19%
Offshore oil and gas (n=1,779)	23%	4%	19%	31%	38%	8%
Oil sands (n=1,775)	19%	4%	15%	26%	45%	9%

Q6 To what extent do you agree or disagree that each of the following energy sources are environmentally friendly? Split sample question with bases noted in the table.

There are some regional differences in perceptions of the various energy sources as environmentally friendly:

- A majority of respondents in all regions agree solar, wind and hydroelectric are environmentally friendly.
- Fewer respondents in Alberta and Saskatchewan agree solar (85% and 87% respectively) and wind (75% and 77%) energy are environmentally friendly. More in these provinces than in other regions agree traditional energy sources like natural gas (67% and 78%), nuclear energy (49% and 57%), offshore oil and gas (37% and 34%) and the oil sands (44% and 36%) are environmentally friendly.

- Perceptions of wind (93%) and hydroelectricity (85%) as environmentally friendly are more widespread in Quebec (85%), while their perceptions of natural gas (52%), biodiesel fuel (37%), nuclear energy (25%), offshore oil and gas (11%) and the oil sands (9%) are less positive than any other region.

Other subgroup differences include:

- Men are more likely than women to see most energy sources as environmentally friendly, except for solar and wind, for which perceptions are similar.
- Fewer younger Canadians (18 to 34) view offshore oil and gas (15%) and oil sands (14%) as environmentally friendly while more Canadians living in rural areas view these energy sources more favourably (28% and 27% respectively).
- Women (33%) and those with household incomes under $40K (35%) are less likely to view nuclear energy as environmentally friendly whereas men (55%) and those with household incomes over $100K (53%) are more likely to view this energy source as environmentally friendly.

Most concerning energy issues

Canadians are equally concerned about the price they pay for energy and the impact the energy industry has on the environment; they are less concerned about the future of the job market in the energy industry.

Eight in ten Canadians are at least somewhat concerned about the impact of the energy industry on the environment (80%) and the price they pay for energy (79%), although fewer than four in ten are *very concerned* in either case (35% and 39% respectively). Compared to 2018/19, this marks an increase in concern about the environmental impact (up 6 points) but a slight decrease in concern about the price of energy (down 3 points). Canadians are less concerned about the future of the energy job market in comparison, although 57 percent are at least somewhat concerned about this.

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	2018/19 Net: concerned
The impact of the energy industry on the environment	80%	35%	45%	14%	5%	1%	74%
The price you pay for energy	79%	39%	41%	16%	3%	1%	83%
The future of the job market in the energy industry	57%	20%	37%	30%	8%	5%	N/A

Q7 Thinking about energy issues in Canada today, how concerned are you about each of the following?

Levels of concern about these three energy issues are relatively consistent across regions and demographic subgroups, with the exception of the following cases where concern is *lower*:

- *Concern for the price* of energy is lower in Quebec (73%), among and those with household income above $150K (73%). Concern is higher in the Atlantic (89%), among rural residents (84%) and those with a high school education or less (84%).

- *Concern for the impact of the energy industry on environment* is lower in Alberta (69%), Saskatchewan (64%) and among those with a high school education or less (73%).

- *Concern for the future of energy job market* is lower in Quebec (41%) and among those aged 18-34 (52%) but higher in Alberta (82%), Saskatchewan (76%), Atlantic Canada (64%), among those in rural communities (62%), and Canadians aged 55+ (63%).

Familiarity with low-carbon topics

Although the majority of Canadians are familiar with these topics, only one in ten express strong familiarity with each.

More than half of Canadians say they are at least somewhat familiar with net-zero greenhouse gas emissions (61%), a low-carbon economy (57%), and the Paris Agreement on Climate Change (54%), but only one in ten are *very familiar* with any of these topics.

Familiarity with low-carbon topics

Topic	Net: familiar	Very familiar	Somewhat familiar	Not very familiar	Not at all familiar	Not sure
Net-zero greenhouse gas emissions	61%	10%	51%	28%	7%	3%
A low-carbon economy	57%	9%	47%	32%	9%	3%
The Paris Agreement on Climate Change	54%	10%	44%	30%	14%	3%

Q8 To what extent do you agree or disagree that each of the following energy sources are environmentally friendly?

More men than women and more residents in Alberta say they are familiar with all the terms. Stated familiarity is higher among university graduates and those with a household income of $150K or more.

C. Oil and Gas

Perceptions of a low-carbon economy

Canadians are most optimistic about the economic and job benefits of a transition to a low-carbon economy, but relatively less convinced that it will have a positive impact on Indigenous communities, communities with carbon-intensive industries and on Canada's ability to meet its greenhouse gas reduction commitments.

Survey respondents were asked to consider four statements about a transition to a low-carbon economy and indicate their level of agreement with each one. Canadians show a moderate level of agreement that a low-carbon economy will benefit Canada by providing good quality jobs (62%). There are mixed views about whether Indigenous communities specifically will benefit from the transition (50%) or that communities dependent on carbon-intensive industry will thrive (50%), though 24% indicate they are unsure. Canadians express the least

confidence that it is possible to develop Canada's oil sands and maintain Canada's commitment to reduce greenhouse gas emissions (44%).

Agreement with low-carbon economy statements

Statement	Net: agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
Canada's transition to a low-carbon economy will provide good quality jobs for Canadians	62%	20%	42%	14%	8%	15%
Indigenous communities will benefit from Canada's transition to a low-carbon economy.	50%	16%	34%	16%	10%	24%
Communities that currently depend on carbon-intensive industries can still thrive in a low-carbon economy.	50%	12%	38%	24%	11%	15%
It is possible to develop Canada's oil sands and maintain Canada's commitment to reduce greenhouse gas emissions.	44%	13%	31%	25%	18%	13%

Q9 A low-carbon economy is an economy based on low-carbon power sources that emit less greenhouse gas emissions, specifically carbon dioxide, into the atmosphere. To what extent do you agree or disagree with the following statements?

Those in Alberta and Saskatchewan are much less likely than those in other regions to agree that the transition to a low-carbon economy will provide good quality jobs (49% and 48% respectively), benefit Indigenous communities (39% and 40%), or benefit communities dependent on carbon-intensive industries (44% and 38%). About two thirds of Alberta (69%) and Saskatchewan (64%) residents believe that it is possible to develop the oil sands while reducing greenhouse gas emissions. In Quebec, just three in ten (29%) agree the oil sands can be developed while still reducing emissions.

Other sub-groups most likely to agree with each statement:

Residents in rural areas are more likely to agree It is possible to develop Canada's oil sands and maintain Canada's commitment to reduce greenhouse gas emissions (49%) while less likely to agree Canada's transition to a low-carbon economy will provide good quality jobs for Canadians (56%).

Young Canadians aged 18-34 express higher levels of agreement as it pertains to a low-carbon economy providing good quality jobs (69%) , Indigenous communities benefiting from Canada's transition to a low-carbon economy (56%) and communities dependent on carbon-intensive industries thriving in a low-carbon economy (56%).

Natural resource priorities for the federal government

The majority of Canadians think it is important for the federal government to support initiatives to ease the transition to a low-carbon economy, with one-third rating each one as a "top priority" for the Canadian government.

Asked to consider three types of initiatives to ease the transition to a low-carbon economy for Canadians, a strong majority of Canadians say that these initiatives are important. About one in three rate helping communities that depend on carbon intensive industries to develop a more diverse economy (35%), funding education and skill development programs to train workers for emerging job opportunities in a low-carbon global economy (35%) and engaging in meaningful consultations with Indigenous communities on natural resource projects that affect them (33%) as a *top priority* for the federal government.

Priorities for the federal government

Initiative	Net: Important	Top priority	Important but not a top priority	Not a priority	Not sure
Helping communities that depend on carbon-intensive industries to develop a more diverse economy	83%	35%	48%	11%	5%
Funding education and skill development programs to train workers for emerging job opportunities in a low-carbon global economy	82%	35%	47%	13%	5%
Engaging in meaningful consultations with Indigenous communities on natural resource projects that affect them	77%	33%	44%	17%	5%

Q10 In your view, how much of a priority is it for the Government of Canada to support the following initiatives?

Saskatchewan is significantly less likely to see each of these initiatives as important compared to other regions (74%, 72% and 73% respectively).

Views on Trans Mountain pipeline expansion

Canadians are more certain of the job and economic opportunities that will flow from the Trans Mountain expansion, than they are that revenues from the pipeline will help fund clean energy initiatives.

Canadians largely agree that the Trans Mountain pipeline will benefit Canada's economy and create jobs (70%). Fewer, but still a majority (54%), believe revenues from the pipeline will help fund Canada's clean energy transition.

Support for proposed Trans Mountain pipeline expansion

Statement	Net: agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
The Trans Mountain pipeline expansion will create economic opportunities and good quality jobs for Canadians	70%	27%	43%	14%	8%	8%
Revenues from the Trans Mountain pipeline expansion will help fund Canada's clean energy transition	54%	18%	36%	20%	12%	15%

Q11 The Trans Mountain pipeline expansion involves building a twin pipe to an existing pipeline that runs from Alberta to British Columbia, thereby increasing Canada's capacity to get its oil sands oil to market. To what extent do you agree or disagree with the following statements?

Agreement that the Trans Mountain pipeline expansion will create economic opportunities and fund the clean energy transition is higher in Alberta (89% and 75%, respectively), Saskatchewan (84% and 69%) and Manitoba (75% and 63%) and significantly lower in Quebec (52% and 40%). Agreement with both statements is more widespread among those aged 55+ (75% and 59%).

D. Critical Minerals and Metals

Views on critical mineral and metals mining

While most Canadians agree that critical minerals and metals are essential to the Canadian economy and important for the development of clean tech, there is high uncertainty about the non-economic impacts of the industry.

Asked to rate their agreement with five statements about critical minerals and metals mining, Canadians largely agree that it is essential to the economy (78%). Majorities also agree the industry provides good quality jobs (73%), and that critical minerals and metals are essential in the development of clean energy technologies (67%). Half of Canadians agree that Canada uses innovative technologies and initiatives to reduce the environmental impact of mining (49%), and four in ten see mineral mining as an important employer of Indigenous peoples (40%).

Views on critical minerals and renewable energies

Statement	Net: agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
Critical minerals and metals are essential to the Canadian economy	78%	31%	46%	7%	2%	13%
The minerals industry provides good quality jobs to Canadians	73%	24%	49%	9%	2%	17%
Critical minerals and metals are essential in the development of clean energy technologies	67%	23%	45%	8%	2%	23%
Canada uses innovative technologies and initiatives to reduce the environmental impact of mining	49%	10%	39%	19%	4%	28%
The minerals industry is an important employer of Indigenous peoples	40%	10%	30%	15%	4%	41%

Q12 Many forms of renewable energy require critical minerals or metals such as platinum, nickel, cobalt, and rare earth elements. To what extent do you agree or disagree with the following statements?

Agreement with the statement “critical minerals and metals are essential in the development of clean energy technologies” is highest in Alberta (75%) and lowest in Quebec (62%). Likewise, agreement with the statement

"Canada uses innovative technologies and initiatives to reduce the environmental impact of mining" is highest in Alberta (56%) and lowest in Quebec (43%).

Significantly more Canadians in Saskatchewan (51%) and fewer in the Atlantic (35%) agree "the minerals industry is an important employer of Indigenous peoples".

Views on critical minerals and renewable energies

Net agree by Region

Statement	Canada	BC	AB	SK	MB	ON	BC	AT
Critical minerals and metals are essential to the Canadian economy	78%	78%	82%	80%	**83%**	78%	**73%**	82%
The minerals industry provides good quality jobs to Canadians	73%	72%	76%	**83%**	72%	72%	71%	**78%**
Critical minerals and metals are essential in the development of clean energy technologies	67%	70%	**75%**	66%	70%	67%	**62%**	70%
Canada uses innovative technologies and initiatives to reduce the environmental impact of mining	49%	47%	**56%**	**59%**	49%	50%	**43%**	50%
The minerals industry is an important employer of Indigenous peoples	40%	42%	43%	**51%**	41%	39%	37%	**35%**

Q12 Many forms of renewable energy require critical minerals or metals such as platinum, nickel, cobalt, and rare earth elements. To what extent do you agree or disagree with the following statements?

Across the country, agreement with all statements is significantly higher among men and significantly lower among women and those with household incomes under $40K. Those with household incomes under $40K are also significantly more likely to respond that they are not sure in relation to all statements.

Significantly fewer Canadians aged 18-34 agree, "critical minerals and metals are essential to the Canadian economy" (70%) and "the minerals industry provides good quality jobs to Canadians" (66%).

Views on critical minerals and renewable energies

Net agree by Gender and Age

Statement	Canada	Women	Men	18 to 34	35 to 54	55+
Critical minerals and metals are essential to the Canadian economy	78%	**71%**	**85%**	**70%**	76%	85%
The minerals industry provides good quality jobs to Canadians	73%	65%	81%	66%	73%	77%
Critical minerals and metals are essential in the development of clean energy technologies	67%	59%	76%	66%	63%	72%
Canada uses innovative technologies and initiatives to reduce the environmental impact of mining	49%	44%	55%	47%	48%	51%
The minerals industry is an important employer of Indigenous peoples	40%	33%	46%	39%	39%	40%

Q12 Many forms of renewable energy require critical minerals or metals such as platinum, nickel, cobalt, and rare earth elements. To what extent do you agree or disagree with the following statements?

E. Forests

Opinions about Canadian forestry industry

Nearly all Canadians agree that forests are a major source of wealth for Canada. Majorities also agree that sustainable management of forests is important, and that Canada is equipped to do this.

Canadians see great value in the country's forest resources, with nine out of ten agreeing that forests are a major source of wealth providing economic, social, and environmental benefits to the country. Canadians also hold largely positive views about independent, third-party certification of Canada's forests to ensure they are sustainably managed (71%), that Canada uses science-based practices to conserve and protect forests (60%), and that Canada has strong system of forest laws, monitoring and enforcement (56%). However, there is greater uncertainty about the latter three statements, with roughly one in five Canadians saying they are "not sure" about each one.

Agreement with statements about Canadian forestry

Statements about forestry	Net: agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
Forests are a major source of wealth for Canadians, providing a wide range of economic, social and environmental benefits	90%	49%	41%	5%	1%	4%
Independent, third-party certification of Canada's forests is important to ensuring forests are sustainably managed	71%	28%	43%	9%	3%	16%
Canada uses science-based sustainable forest management practices to conserve and protect its forests	60%	14%	46%	15%	4%	21%
Canada has a strong system of forest laws, monitoring and enforcement that ensures sustainable forest management across the country	56%	13%	43%	20%	6%	18%

Q13 To what extent do you agree or disagree with the following statements?

More Canadians who reside in Alberta (67%) and fewer residing in Quebec (48%) agree Canada has a strong system of forest laws, monitoring and enforcement that ensures sustainable forest management across the country.

Forestry priorities for the federal government

Most Canadians place some importance on the three forestry initiatives presented in the survey, with greatest priority placed on rebuilding forests and returning land to its natural state.

More than eight in ten Canadians (87%) say it is important for the Government of Canada to support rebuilding forests with a variety of spacing and species to return the land to its natural state, including nearly half (49%) who say this should be a *top priority*. More than eight in ten Canadians (87%) similarly support protecting trees from insect infestation, although a smaller proportion (43%) call it a top priority. Expanding urban forests is seen as important by about eight in ten, with more than one-third (36%) seeing it as a top priority.

Priorities for the federal government

Initiative	Net: Important	Top priority	Important but not a top priority	Not a priority	Not sure
Rebuild forests with a variety of spacing and species to return the land to its natural state	87%	49%	38%	9%	4%
Protect trees from insect infestations	87%	43%	44%	9%	4%
Help cities expand their urban forests and diversify them to improve their health	81%	36%	45%	15%	4%

Q14 In your view, how much of a priority is it for the Government of Canada to support the following initiatives?

Perceptions of forest bioproducts

Most Canadians view forest products as recyclable, better than single-use plastics, less impactful on the environment, and worth paying a bit more for.

Respondents were given a brief explanation about forest products before being asked their level of agreement with four statements about this topic. While overall agreement is high for each statement about forest bioproducts, fewer than half *strongly agree* with each statement.

Topping the list, four in ten (41%) strongly agree that forest products can be recycled, and a similar proportion (38%) strongly agree that it is better to use forest products than single-use plastics. About one in four (27%) strongly agree that these products have less environmental impact compared to products made from fossil fuel-based materials, and that it is worth paying more for forest products (24%).

Agreement with statements about forest bioproducts

Level of agreement with statements about forest bioproducts	Net: agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
Forest products can be recycled into new products and materials at the end of their lives	87%	41%	46%	5%	1%	8%
It is better to use single-use forests products than single-use plastics	79%	38%	41%	7%	3%	11%
Forest products have a lower environmental impact than comparable products made with fossil fuel-based materials	69%	27%	42%	11%	3%	18%
It is worth paying more for forest products instead of an equivalent fossil fuel-based product	66%	24%	42%	14%	5%	15%

Q15 Forest biomass refers to all parts of the tree – the trunk, bark, branches, needles, leaves, and even the roots. Forest biomass is increasingly used to make a variety of bioproducts such as chemicals, textiles, personal care products, and other engineered wood products. To what extent do you agree or disagree with the following statements about these kinds of forest products?

Significantly more Canadians in British Columbia (76%) and fewer in Alberta (60%) and Saskatchewan (62%) agree “forest products have a lower environmental impact than comparable products made with fossil fuel-based materials”.

Significantly more in Quebec (73%) and fewer in Alberta and Saskatchewan (47% respectively) agree “it is worth paying more for forest products instead of an equivalent fossil fuel-based product”.

F. Nuclear

Opinion about small modular reactors (SMRs)

Knowing they are a source of clean energy, having features that permit shut downs when not actively managed and using recycled fuel from existing reactors are the features most likely to increase Canadians' support for SMRs.

Respondents were given a brief description of small nuclear energy reactors (SMRs) and then asked to consider how their support for this technology is impacted by several key SMR features. Three features stand out as for increasing support for SMRs in Canada: knowing they are a source of clean energy that produce no greenhouse gas emissions (70%), include safety features that permit shut downs when not actively managed (69%), and use recycled fuel from existing reactors (66%).

Fewer, but still a majority, say their support increases knowing SMRs can be used in areas where larger reactors cannot (56%) and can be portable and scalable (55%). Nearly half (49%) say permanent nuclear waste storage facilities increases their support for SMRs.

Impact of statements about SMRs

Statements about SMRs	Net: Increase	Increase a lot	Increase a little	Makes no difference	Decrease a little	Decrease a lot	Not Sure
Knowing that it is a source of clean energy that produces no GHG emissions	70%	35%	35%	14%	3%	2%	12%
Safety features so SMR can shut down safely even when not actively managed	69%	35%	34%	13%	3%	2%	13%
Use recycled fuel from existing nuclear reactors, reducing waste generated	66%	31%	35%	12%	3%	2%	17%
Used in areas where larger nuclear reactors are not possible	56%	22%	34%	19%	4%	3%	19%
Modular designs that are portable and scalable	55%	22%	34%	19%	4%	3%	19%
Having permanent nuclear waste storage facilities	49%	21%	28%	19%	7%	6%	19%

Q16 Small Modular Reactors (SMRs) are a rapidly emerging area of nuclear energy innovation, in Canada and around the world. SMRs will have enhanced safety features, a smaller footprint and produce less waste than traditional nuclear energy reactors. To what extent do each of the following increase or decrease your support for small nuclear reactors in Canada?

Across regions, positive reaction to all statements was significantly lower in Quebec.

Impact of statements about SMRs

Net Increase Support by Region

Statements about SMRs	Canada	BC	AB	AK	MB	ON	QC	AT
Knowing that it is a source of clean energy that produces no GHG emissions	70%	73%	**68%**	71%	76%	74%	**59%**	74%
Safety features so SMR can shut down safely even when not actively managed	69%	73%	74%	71%	76%	76%	**53%**	73%
Use recycled fuel from existing nuclear reactors, reducing waste generated	66%	67%	69%	66%	**74%**	**74%**	**52%**	66%
Used in areas where larger nuclear reactors are not possible	56%	59%	60%	62%	61%	61%	**41%**	58%
Modular designs that are portable and scalable	55%	54%	**59%**	**62%**	**59%**	**63%**	**40%**	**63%**
Having permanent nuclear waste storage facilities	49%	45%	49%	**53%**	**50%**	**55%**	**41%**	**50%**

Q16 Small Modular Reactors (SMRs) are a rapidly emerging area of nuclear energy innovation, in Canada and around the world. SMRs will have enhanced safety features, a smaller footprint and produce less waste than traditional nuclear energy reactors. To what extent do each of the following increase or decrease your support for small nuclear reactors in Canada?

Those with household incomes of less than $40K are significantly less likely to indicate the statements increased their support while those with household incomes of $150K or more were more likely to say all statements increased their support for small nuclear reactors.

Impact of statements about SMRs

Net Increase Support by Income and Gender

Statements about SMRs	Canada	<$40K	$40K - <$80K	$80K - <$100K	$100K - <$150K	$150K+	Women	Men
Knowing that it is a source of clean energy that produces no GHG emissions	70%	**60%**	69%	**76%**	72%	**75%**	67%	73%
Safety features so SMR can shut down safely even when not actively managed	69%	**63%**	68%	71%	72%	**76%**	65%	73%
Use recycled fuel from existing nuclear reactors, reducing waste generated	66%	**61%**	66%	69%	70%	**72%**	63%	**71%**
Used in areas where larger nuclear reactors are not possible	56%	**49%**	54%	**63%**	**62%**	**63%**	**50%**	**61%**
Modular designs that are portable and scalable	55%	**45%**	54%	**61%**	**60%**	**63%**	**48%**	**63%**
Having permanent nuclear waste storage facilities	49%	**42%**	50%	52%	51%	**56%**	**42%**	**56%**

Q16 Small Modular Reactors (SMRs) are a rapidly emerging area of nuclear energy innovation, in Canada and around the world. SMRs will have enhanced safety features, a smaller footprint and produce less waste than traditional nuclear energy reactors. To what extent do each of the following increase or decrease your support for small nuclear reactors in Canada?

G. Energy efficiency

Perceived impact of changing fuel sources

Canadians believe that shifting industrial vehicles and heating processes to low-carbon fuels will have a greater impact on reducing climate change than will similar shifts for personal vehicles and home heating.

Almost eight in ten believe shifting fuel sources for industrial and commercial heating processes (79%) and vehicles (79%) to low-carbon fuels will reduce climate change impacts, with nearly half saying it will have a *significant impact*. A smaller majority believe shifting fuel sources for personal vehicles (72%) and home heating (67%) will reduce climate change impacts.

Perceived impact of shifting fuel sources

Type of shift	Net: impact	Significant impact	Moderate impact	Limited impact	No impact at all	Not sure
Industrial and commercial vehicles	79%	48%	30%	13%	4%	4%
Industrial and commercial heating processes	79%	45%	34%	12%	3%	6%
Personal vehicles	72%	39%	33%	20%	5%	3%
Home heating processes	67%	26%	42%	23%	5%	5%

Q17 How much of an impact do you believe shifting each of the following to electricity or other low-carbon fuels will have on reducing climate change impacts?

Alberta and Saskatchewan are least likely to think these changes will have a significant impact. Residents of Quebec are most likely to view all four as having a significant impact.

Changing fuel sources for both personal (74%) and industrial and commercial (73%) vehicles and Industrial and commercial heating processes (67%) is less likely to be seen as having a significant impact among those in rural communities.

Perceived impact of shifting fuel sources

Net Impact Region

Type of shift	Canada	BC	AB	SK	MB	ON	QC	AT
Industrial and commercial vehicles	79%	81%	**65%**	**60%**	81%	80%	**84%**	80%
Industrial and commercial heating processes	79%	82%	**67%**	**65%**	81%	79%	82%	83%
Personal vehicles	72%	75%	**56%**	**53%**	75%	74%	**77%**	70%
Home heating processes	67%	70%	**56%**	**55%**	**75%**	67%	**72%**	**72%**

Q17 How much of an impact do you believe shifting each of the following to electricity or other low-carbon fuels will have on reducing climate change impacts?

Perceived impact of increasing energy efficiency

Canadians believe that increasing the energy efficiency of industrial and commercial buildings will have a greater impact on climate change than single or multi-family homes.

Canadians were asked about the impact of increasing the energy efficiency of different types of buildings on climate change. While Canadians largely think it will be beneficial from a climate change perspective to increase the energy efficiency of all three building types, they are more likely to believe changes to industrial and commercial buildings will have an impact (84%) compared to changes to apartments (73%) or single-family homes (67%). These findings, in addition to responses for the previous question about fuel sources, validate the

qualitative research in which participants felt they were already making the changes within their reach at home and believe industry needs to take on a larger role in combatting climate change.

Perceived impact of increasing energy efficiency

Building Type	Net: impact	Significant impact	Moderate impact	Limited impact	No impact at all	Not sure
Industrial and commercial buildings	84%	52%	32%	10%	3%	3%
Multi-family apartments and condominiums	73%	33%	40%	19%	4%	3%
Single-family homes	67%	24%	43%	26%	4%	3%

Q18 How much of an impact do you believe increasing the energy efficiency of each of the following will have on climate change?

In line with their opinions on changing fuel sources, Alberta and Saskatchewan are least likely to believe increasing the energy efficiency of industrial and commercial buildings (78% and 72% respectively), multi-family apartments and condominiums (67% and 63%), and single-family homes (60% and 58%) will have an impact on climate change.

Decision factors for purchasing new tires

Safety performance is the most influential decision criteria for new tire purchases, followed by price. Fuel efficiency, tread-wear, temperature and road noise performance tend to play a smaller role in the decision to purchase new tires.

Canadians who own a vehicle were asked to rank the importance of six criteria when choosing new tires, where 1 is the most important factor and 6 the least. When purchasing new tires, safety performance is the top decision criterion (51%), followed by price (29%), fuel efficiency (11%), and tread wear (6%). Few identified road

noise performance (2%) or temperature grade (1%) as a top decision criterion when purchasing tires for their vehicles.

Decision criterion for purchasing new tires

SUBGROUP: Those who own a vehicle and are responsible for upkeep and maintenance (n= 2982)

Factor	1 = most influences	2	3	4	5	6 = least influences	Top 2 Box (Ranked 1 or 2)
Safety performance	51%	22%	17%	5%	3%	2%	73%
Price	29%	26%	18%	12%	8%	7%	55%
Fuel efficiency	11%	21%	22%	23%	15%	8%	32%
Tread-wear	6%	19%	26%	23%	17%	9%	27%
Road noise performance	2%	8%	12%	21%	26%	31%	10%
Temperature grade	1%	4%	6%	14%	31%	44%	5%

*Q20 Thinking about when you are choosing a replacement tire model for your vehicle, please rank the following criteria, where "1" means it **most** influences your decision, and "6" means it **least** influences your decision. SUBGROUP: Those who have a vehicle they are responsible for upkeep and maintenance (n= 2982)*

Those aged earning over $150K (64%), aged 55+ (57%) or residing in Alberta (56%) are more likely to rank safety performance as the top consideration.. Fewer with a high school education or less (44%), earning a household income of $40K or less (42%), living in Saskatchewan (44%) or the Atlantic (41%) or rank safety performance as the top criterion.

Price is a top consideration for those aged 18-54 (34%), having a high school education or less (34%),with a household incomes under $40K (37%), residing in Saskatchewan (38%) or in Atlantic Canada (36%),. Fewer aged 55+ (22%) or with household incomes of $150K+ (20%) rank price as the top criterion.

Fuel efficiency ranks as a top 2 consideration most for those living in Ontario (37%), and least in Quebec (25%). Those with post-graduate education (37%) are more likely to rate fuel efficiency as a top 2 consideration.

H. Climate change

Perceived strength of arguments for transitioning to a low-carbon economy

Canadians find that leaving a clean environment for future generations and making Canada self-sufficient are the most compelling arguments in favour of a low-carbon economy.

Canadians were presented with a list of arguments for transitioning to a low-carbon economy, and asked to rate the strength of each argument. Canadians are generally in favour of each argument, with a majority rating each one as *very* or *somewhat strong*, however, strong agreement shows more variation between arguments.

Leaving a clean environment for future generations (51%) is rated strongest, followed by making Canada energy self-sufficient (49%), and avoiding climate change consequences (48%). Improved health (45%) also rates well

with more than four in ten calling it a very strong argument. Arguments about economic benefits and international relations are notably less compelling in comparison.

Perceived strength of arguments for transitioning to a low-carbon economy

Argument	Net: Strong	Very Strong	Somewhat strong	Somewhat weak	Very weak	Not sure
To leave a clean environment for the next generation (n=1,778)	83%	51%	32%	10%	4%	3%
So Canada is more energy self-sufficient / not reliant on other countries (n=1,782)	81%	49%	32%	10%	5%	4%
To improve the health of Canadians through cleaner air (n=1,775)	79%	45%	34%	13%	5%	3%
To avoid the consequences of climate change, like natural disasters (n=1,776)	77%	48%	29%	13%	7%	4%
To create jobs and careers in low-carbon industries (n=1,782)	70%	26%	44%	17%	6%	7%
The economic benefits of being a world leader in emerging industries (n=1,776)	64%	21%	43%	20%	8%	9%
To meet Canada's international obligations (n=1,778)	61%	20%	41%	23%	11%	5%
To improve Canada's international reputation (n=1,777)	56%	17%	39%	27%	13%	4%

Q21 How strong or weak are each of the following arguments for transitioning to a low-carbon economy and developing more renewable energy sources in Canada? Split sample question, bases for each statement indicated on table.

Significant variances could be found for each statement across sub-groups.

- *To leave a clean environment for the next generation*: Those most likely to perceive this argument as very strong include women (57%), younger Canadians aged 18-34 (57%), and residents of the Atlantic Canada (57%). Men (45%) and residents of Alberta (44%) and Saskatchewan (41%) are significantly less likely than other sub-groups to perceive the argument as very strong.

- *So Canada is more energy self-sufficient*: Canadians aged 55+ (54%) and residents of Atlantic Canada (55%) are most likely to view this argument as very strong. Sub-groups significantly less likely to perceive

the argument as very strong include residents of Alberta (43%), Saskatchewan (39%) and Quebec (41%) as well as those aged 18-34 (43%).

- *To avoid the consequences of climate change:* Residents of Manitoba (61%) and Ontario (54%), women (54%) and those aged 18-34 (53%) are most likely to view this argument as very strong. . Men (43%) and residents of Quebec (42%), Saskatchewan (38%) and Alberta (34%) are significantly less likely than other sub-groups to perceive this argument as very strong.

- *To improve the health of Canadians through cleaner air*: Residents in Ontario (52%) and women (51%) are most likely to view this argument as very strong. Sub-groups significantly less likely to perceive this

argument as very strong include residents of Quebec (39%), Saskatchewan (37%) and Alberta (33%) as well as men (39%).

- *To create jobs and careers in low-carbon industries*: Residents in Manitoba (34%), Alberta (32%) and in the Atlantic (31%) are most likely to view this argument as very strong. Residents in Quebec (18%) and Saskatchewan (17%) were significantly less likely to perceive this argument as very strong.

- *The economic benefits of being a world leader in emerging industries:* This argument did not generate major differences across regions except in Alberta (15%) and Quebec (13%) where residents were significantly less likely to perceive this argument as very strong.

- *To meet Canada's international obligations and to improve Canada's international reputation*: Canadians do not think these arguments are as compelling as the other options. Among those who rate these arguments as very strong, sample sizes are too small for a meaningful comparison by region.

Most concerning impacts of climate change

Canadians are most concerned about how climate change will impact air quality and the number of extreme weather events. Forest fires, floods, and property damages are still concerning, but to a somewhat lesser extent.

Eight in ten Canadians express concern about how climate change will impact air quality (82%) and extreme weather events (81%). Seven in ten express concern about forest fires (77%), flooding (74%) and property damage or loss (71%).

Most concerning impacts of climate change

Potential Impact of climate change	Net: Concerned	Very Concerned	Somewhat Concerned	Not very concerned	Not at all concerned	Not sure
More air pollution/poorer air quality	82%	48%	34%	12%	5%	1%
More extreme/unpredictable weather events	81%	46%	35%	12%	5%	1%
More forest fires	77%	43%	34%	15%	7%	1%
More flooding/severe flooding	74%	37%	37%	17%	7%	2%
More property damage or loss	71%	28%	43%	21%	6%	2%

Q22 To what extent are you concerned about the potential of each of the following climate change impacts occurring in your community in the next 30 years?

Residents in Alberta and Saskatchewan are significantly less likely to say they are very concerned than other regions about all the climate change impacts listed.

Residents of Ontario (54%) are significantly more likely to say they are very concerned about air quality.

Residents in Ontario (54%) and the Atlantic (52%) say they are very concerned about extreme/unpredictable weather events.

More in British Columbia (58%) are very concerned about forest fires.

Strong concern for property damage or loss is highest in the Atlantic (35%).

Most concerning impacts of climate change

Concerned by Region

Potential Impact of climate change	Canada	BC	AB	SK	MB	ON	QC	AT
More air pollution/poorer air quality	82%	83%	69%	63%	80%	84%	88%	78%
More extreme/unpredictable weather events	81%	82%	71%	66%	82%	84%	84%	83%
More forest fires	77%	89%	72%	63%	75%	73%	80%	76%
More flooding/severe flooding	74%	74%	63%	60%	76%	73%	81%	77%
More property damage or loss	71%	69%	63%	63%	69%	73%	71%	75%

Q22 To what extent are you concerned about the potential of each of the following climate change impacts occurring in your community in the next 30 years?

Appendix A: Qualitative methodology

Environics Research conducted a series of 20 focus groups with members of the general Canadian population between October 19th and November 4th, 2020.

Group composition

Two sessions each were conducted in Toronto, Calgary, Vancouver, Montreal, Fredericton, Kitimat, Pincher Creek, Pickering, Baie-Comeau and Amherst. 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
October 19, 5:30 p.m. Eastern	Low Income – Toronto
October 19, 7:30 p.m. Eastern	High Income – Toronto
October 20, 7:30 p.m. Eastern	Low Income – Calgary
October 20, 9:30 p.m. Eastern	High Income – Calgary
October 22, 3:30 p.m. Eastern	Low Income – Fredericton
October 22, 5:30 p.m. Eastern	High Income – Fredericton
October 24, 12:00 p.m. Eastern	Low Income – Pincher Creek
October 24, 2:00 p.m. Eastern	High Income – Pincher Creek
October 26, 5:30 p.m. Eastern	Low Income – Pickering
October 26, 7:30 p.m. Eastern	Low Income – Vancouver
October 27, 5:30 p.m. Eastern	High Income – Pickering
October 27, 7:30 p.m. Eastern	High Income – Vancouver
October 29, 5:30 p.m. Eastern	Low Income – Montreal
October 29, 7:30 p.m. Eastern	High Income – Montreal
November 2, 5:30 p.m. Eastern	Low Income – Amherst
November 2, 7:30 p.m. Eastern	Low Income - Kitimat
November 3, 5:30 p.m. Eastern	Low Income – Baie-Comeau
November 3, 7:30 p.m. Eastern	High Income – Baie-Comeau
November 4, 5:30 p.m. Eastern	High Income – Amherst
November 4, 7:30 p.m. Eastern	High Income - Kitimat

Each group lasted approximately 90 minutes, and consisted of between four and seven participants (out of seven to nine 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.

Recruiting for focus groups in smaller communities can be challenging with online recruitment panels typically used for this task. Environics used a Facebook recruit to identify interested participants in Kitimat, Pincher Creek, Pickering, Baie-Comeau, and Amherst. 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 October 29th and November 3rd.
- Derek Leebosh, Vice President, Environics, moderated sessions on October 19th, 20th, 22nd, and 24th.
- Jodi Shanoff, Vice President, Environics, moderated sessions on October 26th, 2th, November 2nd, and 4th.

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 3,457 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 December 17,2020 – January 5, 2021. 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*	Margin of Error
Jurisdiction						
Newfoundland and Labrador	4%	135	2%	69	52	±11.8%
Nova Scotia	4%	140	7%	258	93	±6.1%
Prince Edward Island	2%	75	1%	36	14	±16.3%
New Brunswick	4%	135	4%	130	76	±8.6%
Quebec	22%	750	21%	738	809	±3.6%
Ontario	24%	800	24%	822	1,324	±3.4%
Manitoba	5%	180	7%	224	121	±6.6%
Saskatchewan	5%	180	4%	146	104	±8.1%
Alberta	14%	475	14%	492	387	±4.4%
British Columbia	15%	500	15%	513	467	±4.3%
Territories	1%	30	1%	29	9	±18.19%
CANADA	100%	3,400	100%	3,457	3,457	±1.7%
Age						
18-34	27%	918	27%	845	933	±3.4%
35-54	34%	1,156	34%	1,269	1,175	±2.8%
55+	39%	1,326	39%	1,343	1,348	±2.7%
Gender						
Male	49%	1,666	49%	1,714	1,694	±2.4%
Female	51%	1,734	51%	1,729	1,747	±2.4%

*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	16	35
Apprentice/college/some university	33	36
University graduate/post-graduate	50	29
Employment status [α]		
Full time/self employed	53	50
Part time	7	11
Not in work force (including retired)	39	35
Total annual household income+		
Under $40,000	16	17
$40,000-<$80,000	31	30
$80,000-<$100,000	14	13
$100,000-<$150,000	23	22
$150,000 or more	16	18
Survey language /official languages		
English	80	85
French	20	15

[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)	30,978
Total completes	(d)	3,457
Qualified break-offs	(e)	893
Disqualified	(f)	885
Not responded	(g)	24,909
Quota filled	(h)	834
Contact rate = (d+e+f+h)/c		20%
Participation rate = (d+f+h)/c		17%

Non-response bias analysis

The table below presents a profile of the final sample (unweighted), 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	24%	27%
35-54	37%	34%
55+	39%	39%
Education level [α]		
High school diploma or less	17%	35%
Trades/college/post sec no degree	35%	36%
University degree	49%	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

October 20, 2020

Environics Research Group Limited
Online Focus Groups on Natural Resources in a Low-carbon Economy
Natural Resources Canada
PN10917
Discussion Guide

1. **Introduction to Procedures (10 minutes)**

Hello everyone, my name is [NAME] and I work for Environics Research, a public opinion research company. Welcome to this online focus group. This is one of a series of online focus groups we are conducting on behalf of the Government of Canada with Canadians all across the country.
We want to hear your opinions so please feel free to agree or disagree with one another. 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.
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. There are also some observers who are observing the session as well and they are part of the research team. I would also like to remind you that 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'm sure most of you are quite familiar with how Zoom works – especially over the last few months! For the most part we will be video chatting, but we will also use the "chat" function from time to time.
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 and you feel you want to comment, 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 such as what sort of work you do or what you do with your time and who lives with you in your house.

2. **Overview of low-carbon economy and its perceived impact (10 minutes)**

We are doing this research project for Natural Resources Canada, which is a department of the Government of Canada, and we are going to be exploring issues around how we produce and use energy in Canada.
You may have heard people talk about a "low-carbon economy". What does that mean to you? Could you each type a few words in the CHAT in answer to the question "What is a low-carbon economy?" and then we will discuss what people wrote.
PARTICIPANTS TO ELABORATE ON WHAT THEY WROTE – PROBE: What is your reaction to the idea of Canada shifting to a low-carbon economy? What are the pros and cons?
As you may have heard, Canada has set a climate goal of achieving "net-zero emissions" by 2050. Have you ever heard of "net-zero emissions"? How would you explain that goal in your own words? Please

type your thoughts into the CHAT box in answer to the question "What does it mean for Canada to have "net zero emissions" by 2050?
How high a priority do you think this goal of net zero emissions by 2050 is for Canada right now? What are the pros and cons?

3. **Individual and community impacts (30 minutes)**

What kind of effect will shifting to a low-carbon economy have on PROBE EACH:

- Individuals like you/households?
- The industry in which you work?
- The economy as a whole?

Here are four areas where people could help make the shift to a low-carbon economy (SHOW FOUR AREAS ON SHARED SCREEN).
What have you done so far in each of these areas?

- Reduce your energy use/using less energy
- Insulation/heating and cooling upgrades
- Replacing windows and doors
- Choosing more fuel-efficient vehicles or using public transportation

What are the main obstacles to you personally doing more to reduce your carbon footprint and contribute to the shift to a low-carbon economy
We have been talking about the shift to a low-carbon economy at the individual level. Now I want to look at it at a broader community level. Everyone in this group today lives in [CITY]. What does a shift to a low-carbon economy look like in [CITY]? What changes would have to occur here?
PROBES: Transportation (personal vehicles, public transit, transporting goods), Buildings (energy efficiency of homes, buildings), electricity infrastructure (how we power the community/get electricity that powers our homes, businesses)

ONLY PROBE IN RESOURCE COMMUNITIES: Local energy sector

Would these changes be all positive for [CITY] or would there be some possible drawbacks or negatives?
This shift will cost money. Is the cost of shifting [CITY] to a low-carbon economy worth it or could the costs outweigh the benefits?

4. **Industry impacts (30 minutes)**

Here is a list of Canada's resource industries. Let's talk about these industries and how each they fit into a low-carbon economy.
SHARE SCREEN WITH LIST OF INDUSTRIES: hydroelectricity, oil, natural gas, mineral mining, forestry, nuclear energy - **ROTATE ORDER OF DISCUSSION OF INDUSTRIES**

<u>Hydroelectricity</u>

What about **hydroelectricity**? Can hydroelectricity contribute to the reduction of greenhouse gases? Is hydroelectricity a cost effective source of energy?
What are some of the other pros and cons of it?

<u>Oil (from oilsands and off-shore)</u>

What about **oil**? It is possible to continue to develop Canada's oil resources and achieve a low-carbon economy/meet our net-zero target? How so?
What are some of the pros and cons of oil extraction in Canada?

<u>Natural gas</u>

What about **natural gas**? Can the development of natural gas in Canada help reduce greenhouse gas emissions?

What are some of the pros and cons of natural gas development in Canada?

Carbon capture and storage

Has anyone ever heard of **carbon capture and storage**?

In fact, carbon capture and storage is when you capture carbon dioxide from industrial activities, such as fuel processing and then compress store it underground. Do you think carbon capture and storage an effective way to reduce greenhouse gas emissions in Canada?

Is it important for Canada to invest in carbon capture and storage?

Mining

Let's talk about **mining**. As you may know, many forms of renewable energy require critical minerals such as, platinum, nickel, cobalt, and rare earth elements. Do you support critical minerals mining in Canada? Why or why not? How is mineral mining different from energy mining?

Would you be more likely to support mining operations that work to reduce emissions, such as using more electrification and efficiencies and mining minerals from existing mine waste?

Alternative fuels

Have any of you heard of using other clean or alternative fuels like biodiesel, ethanol, or hydrogen as ways to make transportation and industry more climate-friendly? What have you heard about these alternative fuels?

Forestry

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

SHARE SCREEN DESCRIPTION: *Forest biomass includes all parts of the tree, not only the trunk but also the bark, the branches, the needles, or leaves, and even the roots. Biomass can be converted into solid, liquid, or gaseous biofuels that can then be burned for energy or used as fuel substitutes for transportation or industrial processes. Forest biomass is increasingly being used to make a wide variety of bioproducts, including chemicals, textiles, personal care products, and other engineering wood products*.

Would you support the greater use forest biomass in home and industrial heating? Could this be part of a strategy for a low-carbon economy? Is this something Canada should invest in?

Nuclear energy

What about nuclear energy**. Nuclear energy** does not emit greenhouse gases and accounted for 15% of the country's total electric energy generation in Canada in 2018. Do you think Canada should increase the use of nuclear energy in Canada? Why or why not?

Has anyone ever heard of SMRs? Small Modular Reactors (SMRs) are an emerging area of nuclear energy innovation, in Canada and around the world. SMRs will have enhanced safety features, a smaller footprint and produce less waste than traditional nuclear energy reactors.

What do you think of the idea that if we get more of our energy from SMRs that this could be a way to move to a low-carbon economy? Could this be part of the solution? Is there a downside to moving to SMRs?

Climate change

Will any of the sources of energy we have talked about be impacted by a changing climate? How so?

5. **Communications/information needs (10 minutes)**

We've talked about the changes that need to be made by each of us individually, more broadly in our communities and also in our key industries – if we are going to shift to a low-carbon economy. It will be up to the federal government to communicate with Canadians about the importance of doing all of this.

If the Government of Canada wants to motivate you as an individual to take action in helping shift to a low-carbon economy, what should their message be? What do they have to say to motivate you? What words should they use?
Please use the CHAT function to type a few ideas on messages, examples, or language you feel are most important for the federal government to use or emphasize.
DISCUSS EACH PARTICIPANT SUBMISSION BRIEFLY IF TIME – Why did you choose that language? Why do you think it will be effective in getting the message across to you?

6. **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 PARTICIPATION

Appendix D: Quantitative survey questionnaire

Environics Research Group

December 17, 2020

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

4. What would you say is the **single** biggest issue Canada faces when it comes to our natural resources? [2019]

[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 – CAROUSEL (SHOW ONE AT A TIME)

a. Making sure natural resources are developed in a way that respects the environment [2019]
b. Promoting the economic growth of natural resource industries [2019]
c. Striking a balance between environmental and economic considerations [2019]
d. Investing in clean energy and clean technology [2019]
e. Implementing a plan to get Canada to net-zero emissions

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

Energy

6. To what extent do you agree or disagree that each of the following energy sources are environmentally friendly?

RANDOMIZE – GRID
SHOW ALL RESPONDENTS NUCLEAR
SHOW RESPONDENTS FOUR OF THE OTHERS AT RANDOM SO EACH OPTION IS RANKED BY APPROXIMATELY HALF OF THE RESPONDENTS

a. Hydroelectric dams
b. Nuclear energy [SHOW ALL]
c. Wind energy
d. Oilsands
e. Offshore oil and gas
f. Natural gas
g. Solar energy
h. Biodiesel fuel
i. Hydrogen fuel

01–Strongly agree

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

7. 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 [2019]
b. The impact of the energy industry on the environment [2019]
c. The future of the job market in the energy industry

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

8. In general, how familiar are you with each of the following topics?
RANDOMIZE – GRID

a. The Paris Agreement on Climate Change
b. A low-carbon economy
c. Net-zero greenhouse gas emissions

01 – Very familiar
02 – Somewhat familiar
02 – Not very familiar
03 – Not at all familiar
04 – Not sure

Oil and Gas

9. A low-carbon economy is an economy based on low-carbon power sources that emit less greenhouse gas emissions, specifically carbon dioxide, into the atmosphere. To what extent do you agree or disagree with the following statements?

RANDOMIZE – CAROUSEL (SHOW ONE AT A TIME)

a. Communities that currently depend on carbon-intensive industries can still thrive in a low-carbon economy.
b. Canada's transition to a low-carbon economy will provide good quality jobs for Canadians
c. Indigenous communities will benefit from Canada's transition to a low-carbon economy

d. It is possible to develop Canada's oil sands and maintain Canada's commitment to reduce greenhouse gas emissions

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

10. In your view, how much of a priority is it for the Government of Canada to support the following initiatives?
RANDOMIZE – CAROUSEL (SHOW ONE AT A TIME)

a. Engaging in meaningful consultations with Indigenous communities on natural resource projects that affect them

b. Funding education and skill development programs to train workers for emerging job opportunities in a low-carbon global economy

c. Helping communities that depend on carbon-intensive industries to develop a more diverse economy

01–Top priority
02–Important but not a top priority
03–Not a priority
99-Not sure

11. The Trans Mountain pipeline expansion involves building a twin pipe to an existing pipeline that runs from Alberta to British Columbia, thereby increasing Canada's capacity to get its oil sands oil to market. To what extent do you agree or disagree with the following statements?
RANDOMIZE – CAROUSEL (SHOW ONE AT A TIME)

a. The Trans Mountain pipeline expansion will create economic opportunities and good quality jobs for Canadians

b. Revenues from the Trans Mountain pipeline expansion will help fund Canada's clean energy transition

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

Critical Minerals and Metals

12. Many forms of renewable energy require critical minerals or metals such as platinum, nickel, cobalt, and rare earth elements. To what extent do you agree or disagree with the following statements?
RANDOMIZE - CAROUSEL

a. Critical minerals and metals are essential to the Canadian economy

b. The minerals industry provides good quality jobs to Canadians

c. The minerals industry is an important employer of Indigenous peoples

d. Critical minerals and metals are essential in the development of clean energy technologies

e. Canada uses innovative technologies and initiatives to reduce the environmental impact of mining

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

Forests

13. To what extent do you agree or disagree with the following statements?

RANDOMIZE - CAROUSEL

a. Forests are a major source of wealth for Canadians, providing a wide range of economic, social and environmental benefits

b. Canada has a strong system of forest laws, monitoring and enforcement that ensures sustainable forest management across the country

c. Canada uses science-based sustainable forest management practices to conserve and protect its forests

d. Independent, third-party certification of Canada's forests is important to ensuring forests are sustainably managed

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

14. In your view, how much of a priority is it for the Government of Canada to support the following initiatives?
RANDOMIZE – CAROUSEL (SHOW ONE AT A TIME)

a. Help cities expand their urban forests and diversify them to improve their health

b. Protect trees from insect infestations

c. Rebuild forests with a variety of spacing and species to return the land to its natural state

01–Top priority
02–Important but not a top priority
03–Not a priority
99-Not sure

15. Forest biomass refers to all parts of the tree – the trunk, bark, branches, needles, leaves, and even the roots. Forest biomass is increasingly used to make a variety of bioproducts such as chemicals, textiles, personal care products, and other engineered wood products. To what extent do you agree or disagree with the following statements about these kinds of forest products?
RANDOMIZE - CAROUSEL

a. Forest products have a lower environmental impact than comparable products made with fossil fuel-based materials
b. It is worth paying more for forest products instead of an equivalent fossil fuel-based product
c. Forest products can be recycled into new products and materials at the end of their lives
d. It is better to use single use forests products than single use plastics

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

Nuclear

16. Small Modular Reactors (SMRs) are a rapidly emerging area of nuclear energy innovation, in Canada and around the world. SMRs will have enhanced safety features, a smaller footprint and produce less waste than traditional nuclear energy reactors.

To what extent do each of the following increase or decrease your support for small nuclear reactors in Canada?

RANDOMIZE - CAROUSEL

a. Safety features so the machine can shut down safely even when not being actively managed
b. Having permanent nuclear waste storage facilities
c. Knowing that it is a source of clean energy that produces no greenhouse gas emissions
d. Used in areas where larger nuclear reactors are not possible, such as remote communities and areas with lower energy demands
e. Modular designs that are portable and scalable, thereby controlling costs and shortening construction schedules
f. Use recycled fuel from existing nuclear reactors instead of traditional uranium, reducing the final volume of waste generated

01–Increase a lot
02-Increase a little
03-Makes no difference
04-Decrease a little
05-Decrease a lot
99-Not sure

Energy Efficiency

17. How much of an impact do you believe shifting each of the following to electricity or other low-carbon fuels will have on reducing climate change impacts?

RANDOMIZE-CAROUSEL

a. Industrial and commercial vehicles
b. Personal vehicles
c. Industrial and commercial heating processes
d. Home heating processes

01–Significant impact
02– Moderate impact
03–Limited impact
04-No impact
99-Not sure

18. How much of an impact do you believe **increasing the energy efficiency** of each of the following will have on climate change?
RANDOMIZE-CAROUSEL

a. Industrial and commercial buildings
b. Multi-family apartments and condominiums
c. Single-family homes

01–Significant impact
02– Moderate impact
03–Limited impact
04-No impact
99-Not sure

19. Do you have a vehicle for which you are responsible for upkeep and maintenance?

01–Yes
02–No [SKIP TO Q21]

20. [IF Q19=yes] Thinking about when you are choosing a replacement tire model for your vehicle, please rank the following criteria, where "1" means it **most** influences your decision, and "6" means it **least** influences your decision.

RANDOMIZE, FORCE TO RANK ALL SIX
01-Fuel efficiency
02-Safety performance (wet traction for all-season tires, or snow traction for winter tires)
03-Tread-wear (how fast a tire wears)
04-Road noise performance (how much external road noise the tire makes)
05-Price
06-Temperature grade (resistance to heat)

Climate Change

21. How strong or weak are each of the following arguments for transitioning to a low-carbon economy and developing more renewable energy sources in Canada?

SPLIT SAMPLE - SHOW EACH RESPONDENT FOUR OF THE EIGHT OPTIONS AT RANDOM

EACH OPTION SHOULD BE SEEN BY APPROX. HALF OF RESPONDENTS

a. To create jobs and careers in low-carbon industries
b. For the economic benefits of being a world leader in these emerging industries
c. To improve the health of Canadians through cleaner air
d. To leave a clean environment for the next generation
e. To avoid the consequences of climate change, like natural disasters
f. To improve Canada's international reputation
g. To meet Canada's international obligations
h. So that Canada is more energy self-sufficient and not reliant on other countries

01–Very strong
02–Somewhat strong
03–Somewhat weak
04-Very weak
99-Not sure

22. To what extent are you concerned about the potential of each of the following climate change impacts occurring in your community in the next 30 years?

RANDOMIZE – GRID

a. More extreme/unpredictable weather events
b. More air pollution/poorer air quality
c. More flooding/severe flooding
d. More forest fires
e. More property damage or loss

f. 01 - Very concerned
g. 02 - Somewhat concerned
h. 03 - Not very concerned
i. 04 - Not at all concerned
j. 99 - Not sure

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.

23. 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

24. 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

25. 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)

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.