

**What we heard on *Our  
Clean Future***  
**Appendix B: Complete  
Input**

September 2020



# Introduction

This appendix provides a comprehensive account of all of the qualitative input received on the draft version of *Our Clean Future*, expanding on the summary of input provided in the main “what we heard” document.

## What we heard

We use the following terminology as a rough indication of the number of participants providing a similar or certain type of input:

A couple:	Two
A few:	Three
A handful:	Around 5
Several:	Around 10
Many:	Around 30 or more

As with the main what we heard report, we have organized the input we received into:

- comments on the approach to developing and implementing *Our Clean Future*,
- feedback on the four goals of the strategy, and
- comments that are more specific to each of the action areas in the strategy (e.g., “transportation”).

## Approach

At the public meetings, participants were asked to indicate their level of support for the vision of *Our Clean Future* and the overall approach to developing the strategy on a poster using a scale from “not supportive” to “very supportive.” While most of the

public meeting participants decided to share their thoughts verbally, almost all of the participants that made a marking on the poster identified that they were “supportive” or “very supportive” of both the vision and the approach. Only one participant identified feeling “neutral” about each.

The sections below reflect the detailed comments provided by participants, including those that attended the public meetings, on the approach to developing and implementing *Our Clean Future*.

## Overall impression

Many participants commented that *Our Clean Future* is a good start, with several other participants noting that the strategy is a step in the right direction but that more action will need to be taken in the future. Several participants applauded the level of ambition in the strategy, while many other participants called for *Our Clean Future* to be more ambitious or bold and one participant suggested that the strategy be completely redone. Conversely, several participants suggested that *Our Clean Future* is unrealistic and one participant suggested the strategy goes too far. A handful of participants were opposed to the strategy, including those who stated they do not believe in climate change and think climate action is a waste of money.

## Scope

Several participants applauded *Our Clean Future* for being comprehensive, while several other participants suggested that the strategy has too many actions or is too broad in scope, and asked for the strategy to focus on the most impactful actions. One stakeholder specifically criticized the inclusion of actions that are already underway and another participant thought that Yukon hospitals should be part of the strategy.

## Leadership

Several participants called for Yukon to be a leader on climate change and one stakeholder group noted that the strategy “demonstrates tremendous leadership.” A

handful of other participants thanked the Government of Yukon for developing *Our Clean Future*. A handful of participants noted that long-term thinking and continued political support will be necessary to be successful, or that the strategy is vulnerable to changes in political leadership, and a handful of additional participants noted the importance of the proposed Clean Energy Act. One stakeholder called for the Clean Energy Act to be passed prior to the next election.

## Timing

Many participants emphasized the urgency of implementing the actions in the strategy to address climate change, with several of these participants urging for a shorter timeframe for *Our Clean Future* than 2030. Conversely, a couple of stakeholders requested that the strategy timeline extend to 2050 to reflect the need to continue making changes past 2030. A couple of participants noted that the 10-year timeline does not reflect the multi-generational and long-term view that Yukon First Nations often have on climate change.

Several additional participants called for the strategy to reflect the fact that Yukon is in a climate change crisis and to better reflect the urgency of the situation we are in. Conversely, one participant requested more research into the actions in the strategy prior to implementing them.

## Implementation

Several participants emphasized the importance of implementing *Our Clean Future*, noting that a strategy does not accomplish anything if the actions are not carried out. Many participants suggested aspects of *Our Clean Future* were not specific enough, requesting more detail on what the Government of Yukon plans to do, concrete commitments and more information on how the strategy will be implemented. Several participants asked for all of the actions in *Our Clean Future* to be measurable and to have clear timelines and targets associated with the actions.

A handful of participants urged the Government of Yukon to work across departments during implementation, while one participant was concerned that departments may fail to deliver on their current responsibilities because of the need to implement new commitments under *Our Clean Future*. One participant suggested that action on climate change become a performance indicator for senior managers within the Government of Yukon.

## Collaboration

Several participants noted the importance of, or expressed an interest in, individuals, organizations and all people more generally being involved in the implementation of *Our Clean Future*. Some of these participants asked for more information on how individuals and non-governmental organizations can support greenhouse gas reduction efforts. Two stakeholders urged the Government of Yukon to create an independent oversight or steering committee to help guide implementation.

A few participants wanted to see closer partnerships between the Government of Yukon and First Nations on climate change, while one participant asked for the involvement of all First Nations in the development of *Our Clean Future*.

## Process

A handful of participants noted that they appreciated being engaged during the development of the strategy. One participant requested that public meetings include a translator for First Nations languages while another participant urged for engagement with marginalized groups that may have a different perspective on climate action.

A couple of stakeholders requested that industry be more involved in the development of the strategy and one government participant noted the importance of carefully selecting expert reviewers to make sure the strategy continues to reflect local values and is respected by important stakeholders.

## Decision-making

A few participants emphasized the importance of making evidence-based decisions. Several participants requested to see the information used to decide what to include in *Our Clean Future*, noting it is difficult to assess whether the strategy is adequate without it. While some of these participants were interested in the dollars per tonne of greenhouse gas emissions reduced, one participant urged the Government of Yukon not to use this metric, suggesting that it is not a “meaningful measure of success.”

## Actions

In addition to comments on specific actions and areas of action, described in later sections of this document, several participants called for more penalties, disincentives and requirements in order to change behaviour in general. Two participants called for people to be encouraged and supported to take action. One participant noted that people’s basic needs must be met before we can expect them to act on climate change.

A handful of participants called for Yukon to look to other places, particularly northern countries, for ideas, while two additional participants asked Yukon to align our actions with other governments in Canada and a couple of participants said Yukon should be working closely with territorial and federal governments during the development of the strategy. A handful of participants were concerned about relying on new technologies, noting their potential environmental impacts or whether they will work in Yukon’s northern climate.

## Reporting and performance management

Several participants asked for regular reporting on progress, often annually, and wanted to see more information on how and when reporting will be completed. Two participants noted that the entity responsible for reporting must be able to compel Government of Yukon departments to take action and one of these stakeholder participants called for an arms-length reporting process to better hold the Government of Yukon accountable. One government partner raised concerns about potential reporting burdens for local governments and encouraged the Government of Yukon to

track a wide range of indicators that reflects the broad range of actions needed to address climate change.

A few participants requested annual updates to *Our Clean Future*, suggesting that updates every three to four years is not sufficient, while one participant did not think the strategy should be updated at all over the next 10 years.

## Cost

A handful of participants wanted to see estimated implementation costs for *Our Clean Future*, with a few of these participants raising concerns about the cost to taxpayers or the ability to fund the strategy. Several other participants raised concerns about climate action imposing costs on individuals, businesses and communities, while one participant asked for the costs of not taking action on climate change to be emphasized. A couple of participants noted the importance of protecting vulnerable individuals and small communities from cost increases.

## Funding

A couple of participants called for committed and transparent funding to implement the strategy. One government participant asked for funding to enable meaningful participation in the implementation of the strategy.

## Reconciliation

A couple of participants questioned or wanted to see more information about how climate action fosters reconciliation with Indigenous people while a couple of other participants noted that reconciliation should be an important part of climate action. Several participants emphasized the importance of sharing, respecting and reflecting traditional knowledge, and a few participants said that *Our Clean Future* needs to have more of an Indigenous lens.

## Language

A handful of participants requested that the strategy use less technical language, particularly asking for “biomass energy” to be referred to as “wood energy.” Other participants asked for key terms to be defined while one participant questioned the understandability of “kilotonnes of carbon dioxide equivalent.”

## Layout

A few participants, including stakeholders, recommended reorganizing the strategy to increase the emphasis on the relationship between people and the environment, or on the impacts of climate change on the natural environment, which they felt did not belong in the “Communities” section of the strategy. One participant suggested moving the figure showing Yukon’s greenhouse gas emissions forecast earlier in the document while another participant said that the action items do not logically fit into the action areas.

## Other

A small number of comments were received including concerns about increasing red tape or bureaucracy, requests for specific language changes in various parts of the document, a desire to understand the relative prioritization between the goals and between the decision-making criteria, a dislike for the cover photo, a request for more background context on climate change and a request to see mention of the Auditor General of Canada’s 2017 report on Yukon’s climate change performance.

## **Achieving the four goals**

In addition to the input below related to each of the four goals of *Our Clean Future*, a couple of participants suggested that the four goals of the strategy do not adequately represent the following First Nations climate and environmental principles: holistic and interconnected relationships, respect and responsibility to the land; reciprocity and



caring for our relations; and the importance of spiritual, cultural and physical healing and emotional and mental wellness.

## Reducing greenhouse gas emissions

### Greenhouse gas reduction target

A handful of participants explicitly stated their support for the 30 per cent greenhouse gas emissions reduction target set as part of *Our Clean Future* while many participants wanted to see a higher reduction target set. A handful of participants wanted to see a target date earlier than 2030 set. A handful of participants wanted to see a longer-term goal set in addition to the 2030 target, including one stakeholder group who advocated for Government of Yukon to set a target of net zero emissions by 2050. A few participants, including government and stakeholder participants, explicitly expressed support for legislating the greenhouse gas reduction target in the proposed Clean Energy Act.

Several participants expressed concern over the feasibility of the emission reduction target, and a few participants felt that reducing emissions would have too high an impact on the cost of living for Yukoners. One participant wanted to know why the 30 per cent target was chosen, and another participant suggested there be more focus on Yukon's per capita emissions.

### Mining intensity target

Many participants expressed concern or opposition around an intensity-based target for the mining industry. This response reflected concerns that Yukon's total greenhouse gas emissions could increase as a result, or the perception the mining industry is getting "a free ride."

A few participants expressed concern that an emission reduction target would make the Yukon mining industry less competitive, with one stating that this would disproportionately affect smaller mines. Conversely, a handful of participants, including

a few stakeholder groups, were supportive of an intensity-based target. For some of these respondents, they were only supportive if the target is stringent and there is transparent tracking of progress. One government partner expressed support for the intensity-based target on the condition that extracted minerals be used for clean technology, while another participant wanted to know whether there is industry buy-in for this target.

Several participants wanted more information about the intensity-based target and how it will be enforced, and a handful of participants wanted to see mining greenhouse gas emissions data publicly reported. A couple of participants expressed concern about the reliability of self-reported metrics by the mining industry. One participant suggested slower mineral extraction to reduce emissions.

## Impact

Several participants believed that Yukon's greenhouse gas emissions are so small that we do not need to reduce our emissions or that our efforts will not make a difference. Some of these participants said the focus should be on large emitters like China and India. A couple of these participants did note the importance of climate change adaptation given that Yukon has limited control over global greenhouse gas emissions. Conversely, several participants wanted to see Yukon reduce its greenhouse gas emissions, but also urged for other jurisdictions in Canada and internationally to do their part. A couple of participants said Canada should be a leader on climate change or that Canada should be doing more to reduce emissions.

## Measurement and reporting

Many participants wanted more information about how Yukon's emissions are measured, including a handful of participants who wanted to know how lifecycle emissions from consumer goods are factored in and a couple of participants who wanted more information on road transportation calculation methods. A couple of participants voiced their support for consistent tracking of emission data and another supported a focus on more accurate emissions forecasting. A few participants

suggested looking into previous emission trends to inform future greenhouse gas reduction efforts. A few participants wanted to see greenhouse gas emissions tracked separately by sector.

## Land use change emissions

A handful of participants expressed support for tree-planting initiatives to capture carbon, with some suggesting this could be an economic development opportunity. A few participants supported emissions from land use change being included in greenhouse gas accounting. One stakeholder group wanted to see the preservation of wetlands be featured more prominently in mitigation efforts. One municipal partner wanted their land conservation efforts to be eligible for carbon credits.

## Carbon pricing

Since 2017, the Government of Yukon has engaged extensively with Yukoners about their perspectives and priorities relating to a carbon pricing rebate in the territory. Many participants also shared their thoughts on carbon pricing during this public engagement.

The Government of Yukon has committed to return all revenues from the Government of Canada to Yukoners in the form of rebates. In 2019, the Government of Yukon announced the details of the Yukon Government Carbon Price Rebate, which was informed by conversations with Yukoners. Details of these conversations can be found at [EngageYukon.ca](http://EngageYukon.ca).

During the public engagement on the draft version of *Our Clean Future*, several participants were in favour of carbon pricing and wanted to see rebates go towards emission reduction programs or policies. A handful of participants were opposed to exemptions for aviation and placer mining while a few participants were opposed to carbon pricing altogether.

## Ensuring access to reliable, affordable and renewable energy

### Renewable electricity target

Many participants commented on the proposed target to generate 93 per cent of the electricity on Yukon's main grid from renewable sources on average. Many participants called for the target to be higher, often urging for a 98 per cent target or higher. A few participants explicitly said they support legislating the target, while one participant wanted to know the planned timeline for developing the legislation.

Several participants wanted to know how the 93 per cent target would be met or were concerned that it is not possible to meet this target given the energy sources available. A handful of participants were specifically concerned about the ability or timeline to get new hydroelectric projects approved, and one participant called on the Yukon Energy Corporation to proceed with projects even in the face of opposition.

A couple of participants were concerned that energy demand from a major mine will result in missing the target while one participant did not think the target included electricity supplied to mines. One participant asked for targets to be assigned to the actions responsible for reaching the 93 per cent.

### Off-grid fossil fuel reduction target

A few participants commented on the target to reduce fossil fuel use for electricity generation in off-grid communities, with two participants urging for the target to be higher and one participant suggesting that the 30 per cent target is achievable as long as there is someone to lead the necessary renewable energy projects.

### Renewable heating target

A couple of participants were supportive of the renewable heating target of 40 per cent by 2030 in the draft version of *Our Clean Future* while many participants called for the target to be higher, urging for anywhere from 45 to 100 per cent renewable heating by 2030. One stakeholder called for the target to be set in legislation to provide certainty

across political cycles. A couple of participants asked for more detail on how the 40 per cent target would be met. One stakeholder suggested a target for reducing fossil fuel use from heating. Conversely, a few participants said the 40 per cent target is not realistic or questioned whether it is achievable, and one participant was concerned about who will bear the cost to reach the target.

## Electrification

A handful of participants noted the importance of converting energy demand for heating to electricity (i.e., electrification), with one participant suggesting electricity needs to be less expensive than fossil fuels to encourage people to switch energy sources. Several participants were concerned that electrification would place increased pressure on the grid and result in increased burning of fossil fuels to generate electricity. A handful of participants raised concerns about the reliability of the electricity grid, noting power outages or concerns with relying on electricity for heating and transportation needs. One of these participants noted the importance of diesel generators for backup.

## Energy costs

Several participants were supportive of increasing electricity rates, with a few of these participants noting that higher rates may encourage more energy efficient behaviours and one participant suggesting that the Interim Electrical Rebate be removed. Conversely, several participants raised concerns about potential increases to electricity rates. A few participants commented that electricity and heating costs are already too high or unaffordable. A few of these participants asked how the Government of Yukon will minimize the impact of rate increases, while a few others specifically noted concerns for low-income individuals or the need to ensure equitable access to energy. One participant noted that what is “affordable” in terms of energy costs will differ from person to person. One participant suggested that electricity bills are difficult to understand.

## Fossil fuels

Many participants did not want to see Yukon use any fossil fuels, often urging the Government of Yukon to stop investing in fossil fuels. Several of these participants were specifically not supportive of the use of liquefied natural gas for electricity generation. Conversely, a handful of participants were supportive of fossil fuel use, noting the potential benefits of local production of fossil fuels or the lower greenhouse gas emissions of propane compared to other fossil fuels. Other comments were more moderate, with a few participants expressing a desire to reduce reliance on diesel, a couple of participants understanding the need for fossil fuels as backup energy and a couple of participants suggesting fossil fuels may be most appropriate in some circumstances.

## Planning

A handful of participants provided suggestions related to planning for electricity supply and demand including: considering the energy needs of off-grid mining projects, off-grid communities and industrial loads; not letting the energy needs of short-term extractive companies dictate energy planning; establishing an independent Steering Committee with diverse representation as well as technical sub-committees focused on policy, regulation, technical details, lifecycle costs and cumulative effects; creating a wind, heat and energy storage working group; conducting annual energy assessments of energy projects; and integrating wind energy planning. One stakeholder expressed interest in participating in regular meetings with stakeholders to share information and receive feedback. In addition, a few participants, including government participants, emphasized the importance of community-specific or regional energy planning. A couple of participants recommended prioritizing the “best” renewable energy sources.

## Other

One stakeholder provided comments and suggested actions to reduce light pollution in Yukon, noting several benefits beyond reduced energy use. A couple of other participants also questioned the abundance of residential and highway streetlights. A

couple of participants recommended eliminating the Government of Yukon's oil and gas unit, with one participant suggesting it be replaced with a renewable energy unit. One participant thought the electricity part of *Our Clean Future* should be a separate plan. One participant noted that they did not see the full suite of options from the Yukon Energy Corporation's 2016 Integrated Resource Plan reflected in *Our Clean Future*.

## Adapting to the impacts of climate change

### Approach

Many participants noted that they strongly support climate change adaptation, and several explicitly stated that they want to see the Government of Yukon be more ambitious with climate change adaptation actions, and that they want to see more emphasis on adaptation. Participants expressed that they would like to see more ambitious action because of the changes that are already happening, and the large-scale nature of the challenges posed by climate change. A couple of participants noted that it is important to focus on adaptation because they questioned the ability of Yukon's population to make significant reductions in greenhouse gas emissions. One participant said that the Government of Yukon should raise awareness about what climate change adaptation is, while another respondent noted that if we don't adapt now, we will pay a bigger price in the future.

### Adaptation target

A handful of participants questioned the Government of Yukon's ability to measure progress on the proposed target for Yukon communities to be highly resilient to the impacts of climate change by 2030, and called for a transparent process to define "highly resilient." While a couple of participants called for quantifiable metrics to assess progress on the adaptation target, a handful of participants also noted that efforts to understand climate resilience must consider climate justice and broader societal issues such as food security, mental health, cultural connections to the land, housing and economic disparities across Yukon. One stakeholder expressed support for the target

and urged the Government of Yukon to incorporate the natural environment into this goal, given the dependence of Yukoners on the environment for food, employment and pleasure.

## Observed impacts

Many participants noted that climate changes are already happening at a fast pace. Participants said they are already seeing changes to the land, water and wildlife. For example, several participants noted fluctuations in water levels and possible impacts to wildlife, to their communities and to local infrastructure.

A handful of participants expressed uncertainty about the future, not having enough information about future impacts, and fear over what is to come. For example, respondents expressed concern about how permafrost thaw is impacting community infrastructure and safety.

## Research

Many participants suggested areas where future research can inform adaptation actions, such as methane release from permafrost thaw, impacts to infrastructure, and impacts to plants, animals, and water ecosystems. One participant noted that more research is needed on groundwater, soil quality and water supplies. Several participants noted the importance of understanding climate change impacts on different populations across Yukon, including residents that are more at risk due to social or economic circumstances. One participant noted a need to consider housing for climate refugees that may come to Yukon.

## Reconciliation and Indigenous leadership

A handful of participants expressed that the Government of Yukon's climate change adaptation actions should align with reconciliation, acknowledging that Indigenous people have a lot of knowledge with respect to resilience. The suggestions included meaningfully considering Indigenous knowledge and scientific knowledge when



making decisions, developing actions that have benefits for cultural programming and language revitalization, and ensuring that Yukon First Nations have capacity to address climate change. A few participants acknowledged the leadership that communities are already demonstrating on adaptation, such as hazard mapping and developing local adaptation plans.

## Building a green economy

### Approach

Several respondents expressed support for Our Clean Future's approach to moving toward a green economy. However, some of these participants expressed reservations, including: concerns that both ecological and social values were being underemphasized; that there is a need to support mechanisms to reduce unemployment and income inequality; that these efforts could not achieve change quickly enough to slow climate change; and that the Government of Yukon is too tied to the mining industry to make the changes needed.

Several respondents noted the need to be more self-sufficient or to build a more circular economy. A few emphasized the need for import substitution while a few others focused on self-sufficiency at the community level. The importance of a low growth economy, a low carbon economy and the "positive economic feedback loop" created by decarbonisation were also mentioned by one participant each.

One participant wanted to see reference to a just transition to a green economy while a couple of participants noted that the definition of a green economy in the draft version of *Our Clean Future* does not reflect the values, beliefs and land stewardship practices of Indigenous people.

### Culture and lifestyle

Many participants emphasized the need for very broad, systemic cultural and lifestyle changes in order to successfully shift to a green economy. The majority of these

comments focused on the need for fundamental changes in consumption patterns and habits while a handful of participants pointed to the need for greater efforts to educate people on the breadth and depth of the changes needed.

## Green businesses

Questions about the definition and role of green businesses were raised by a handful of participants. Two of these participants thought the definition of green businesses in *Our Clean Future* was too vague. One participant pointed out that the value and potential of social entrepreneurship was missing from the strategy. A handful of participants saw the need for businesses to do more and have a greater degree of accountability. Several participants expressed concern or opposition to offering incentives to businesses. A handful spoke of the need for incentives to be directed toward individuals in addition to businesses.

## Jobs

Several participants commented that a green economy is likely to create more economic opportunities and jobs, while one respondent expressed skepticism that a green economy would create any jobs and another questioned whether renewable energy projects would create more jobs than the current fossil fuel-based energy system. A couple of participants focused on the importance of green opportunities and jobs at the local community level. One participant suggested that the Government of Yukon create job opportunities in the green economy specifically for youth, including in archaeological surveys for thawing glaciers, wildlife monitoring and sustainable transportation.

## Green industries

In addition to comments about the role of renewable energy, energy retrofits and biomass (wood) energy in the green economy, a couple of participants saw the potential for more valued-added economic benefits from the fur industry.

## Role of government

A handful of participants were opposed to government involvement in the direction of the economy, while one participant supported massive government involvement to accelerate the change to a green economy. A few participants asked the Government of Yukon to leverage its procurement system to move toward a green economy, while other individual participants identified a need for political certainty, a realistic approach to avoid wasted resources, and to raise awareness of green economic opportunities; concern over the direction that government funding will push the economy; and the idea that the Government of Yukon should build and sell turn-key projects that meet green criteria.

## Taking action

Participants provided detailed comments on the objectives and actions in *Our Clean Future*. In this section, we have organized the input received into the action areas from the draft version of *Our Clean Future* that the comment best relates to:

- Transportation
- Homes and buildings
- Energy production
- Communities
- Innovation
- Leadership

Within each area, we have grouped comments into similar themes for readability.

## Transportation

### Electric vehicles

Several participants explicitly supported having more electric vehicles in Yukon, including a few participants from communities outside Whitehorse. Several participants wanted to see various types of electric vehicles being used in territory, including a

handful who suggested electric snow machines, a few who suggested electric trains, one who suggested electric taxis and one who suggested electric mail delivery vans. One stakeholder was interested in encouraging rental car companies to rent electric vehicles.

Many participants had questions or concerns about how electric vehicles work and how well they perform in Yukon. Several of these participants were concerned about the increased demand on the electrical grid. A handful of these participants wanted more information about life cycle emissions of electric cars while another handful wanted to know how electric cars perform in cold climates. A handful of these participants were also unsure whether they have the infrastructure in their homes to charge an electric vehicle. A handful of participants had questions about the feasibility of electric vehicles in the communities, and a few had concerns about their range and charge time. A few participants wanted more information about the maintenance required for electric vehicles. A couple of participants were concerned about the environmental and social implications of electric vehicle production and accessibility. A couple of participants stated that education about electric vehicles is necessary.

Several participants were concerned about the supply of electric vehicles to Yukon, a handful of whom wanted dealerships to be mandated to sell them to address this. A couple of participants believed electric vehicles may not sell due to Yukon consumer preferences. A few participants wanted to see a buyback program for older cars to encourage electric vehicle use. A couple of participants expressed concern about whether there would be less road infrastructure funding with more electric vehicles on the road due to less fuel tax being collected. A couple of participants expressed concern about the cost of charging electric vehicles. A few participants suggested training Yukoners on how to convert combustion engine cars to electric cars.

A handful of stakeholder groups stated that electric vehicles are consistent with the existing business models of car dealerships, while one stated that dealerships may encourage the sale of fossil fuel vehicles over electric vehicles for financial reasons. A few participants wanted plug-in hybrid vehicles to count towards the zero emission

vehicle targets, and another expressed concern about the feasibility of the target. One participant wanted first responders to be trained on how to handle electric vehicles in an emergency, and another expressed concern about the performance of electric vehicles on gravel roads.

## Electric vehicle rebate

Many participants wanted to see a financial incentive (subsidy or rebate) to make it easier to purchase an electric or hybrid vehicle. Of these participants, a few wanted a subsidy or rebate to apply retroactively once implemented, one wanted the incentive to apply to used or leased electric vehicles as well, and two stakeholder groups wanted to see an additional subsidy for electric vehicles with larger batteries. One participant stated that the rebate should be significant enough to make sure that electric vehicles are affordable to all.

## Electric vehicle charging network

Several participants voiced support for an electric vehicle charging network, with a few participants wanting to see this implemented sooner than planned. A handful of participants outside of Whitehorse explicitly stated that they wanted to see charging stations in their communities. One participant expressed concern about the impact on wildlife of installing charging stations.

## Public transportation

Several participants stated that they wanted more to be done to encourage public transportation use. Of these participants, a handful stated that improvements to Whitehorse's public transit system were needed, such as free or subsidized bus passes, routes that meet commuter needs and more frequent buses. Several participants wanted to see inter-community public transit. A handful of participants supported the use of electric buses for public transit, while one participant expressed concern about the feasibility of this.

## Active transportation

A handful of participants supported the addition of more walking and biking trails for commuters. A handful of participants supported the rebate for electric bicycles, including a few participants who wanted to see this rebate extended to non-electric bicycles as well. Another participant wanted to see more focus on encouraging bus use or walking rather than parents driving their kids to school, one participant supported a rebate for kicksleds, and another proposed “drive-free” days.

A handful of participants suggested road infrastructure be designed to promote more active transportation, including a few who wanted to see active transportation routes better integrated into road networks. One participant wanted to see better year-round trail clearing to encourage active transportation in the winter, while another wanted to see bike commuters be able to provide input on planned road infrastructure projects. One stakeholder group supported downtown Whitehorse becoming more pedestrian-friendly.

## Renewable fuels

Several participants explicitly supported Yukon adopting a fuel renewable content standard, and a couple of participants wanted to see this applied to large commercial vehicles in addition to passenger vehicles. One stakeholder group expressed support for a renewable content standard, pending the availability of fuel additives while another stakeholder asked for a standard to be flexible to allow for biodiesel and renewable diesel to be used. A handful of participants expressed interest in growing biofuel crops in Yukon, including a stakeholder that suggested investigating the types of biofuel crops that could be grown in Yukon.

Several participants raised concerns or questions about the use of renewable fuels. This includes a handful of participants that were concerned about the lifecycle greenhouse gas emissions of biofuels and a few participants concerned about other potential environmental or social impacts of biofuels, such as displacing food crops. A handful of participants, including a stakeholder group, were concerned about the winter performance of biofuels, and a couple were unsure whether blended fuels would work

in an off-road engine. One participant was concerned about the cost of biofuels, while a handful of participants were concerned about the supply or availability of biofuels. One stakeholder group expressed concern about renewable diesel being sourced outside of Canada. A handful of participants wanted more information about biofuels.

## Road infrastructure

A handful of participants expressed support for developing climate-resilient guidelines for road construction. One participant wanted more information about climate-resilient guidelines. One stakeholder group supported expanding geohazard mapping, stating that this should focus more heavily on wildfire potential and permafrost, and wanted action to be taken to mitigate the identified hazards.

A couple of participants expressed concern over the maintenance of Yukon's roads. A few participants wanted to see the emissions from road infrastructure projects be reduced. A few participants expressed that projects just below the \$10 million threshold for a Climate Lens assessment should still be assessed. One stakeholder expressed interest in monitoring climate impacts on roadways. A couple of participants supported construction of a bridge to West Dawson.

## Driving practices

Vehicle idling was mentioned by several participants as a concern, including a few participants who were concerned with semi-truck idling specifically, a couple of participants who want to see anti-idling legislation and one participant who suggested anti-idling technology be installed in vehicles. One participant expressed concern about the maintenance costs associated with turning car engines off and on to avoid idling. One participant suggested reducing speed limits on Yukon highways to reduce transportation emissions, while another suggested eco-friendly driver training.

## Disincentives

Several participants supported higher vehicle registration fees on fossil fuel vehicles and larger vehicles to encourage the use of lower-emission vehicles.

## Medium and heavy-duty vehicles

A few participants wanted more information on the emissions associated with the transport of goods to Yukon. A couple of participants voiced support for electric heavy-duty vehicles to be used. A couple of participants were concerned that using emission reduction technology in heavy-duty vehicles may lead to higher maintenance costs. One participant wanted incentives for on-board heaters to be used rather than individuals running their engines for heat.

## Reducing travel

Several participants said that Yukon overall, or their community specifically, has a car culture that needs to be addressed. A handful of participants expressed an interest in the expansion of telehealth services to reduce the need to travel for healthcare and a couple of participants wanted to see Yukoners use video conferencing whenever possible. One stakeholder group advocated for an overall reduction of vehicles in the territory. One stakeholder wondered whether shifting transportation norms would result in people staying closer to home rather than travelling to remote parts of Yukon.

## Aviation

Several participants expressed support for greater regulation of aviation emissions. A couple of participants were interested in the possibility of electric aircraft. One participant was interested in financial assistance for airlines to purchase more efficient aircraft.

## Car sharing

A handful of participants wanted to see incentives to encourage car sharing for commuters.

## Government of Yukon leadership

Several participants supported the Government of Yukon committing to purchasing more electric vehicles. A few stakeholder groups stated that Government of Yukon purchases of electric vehicles would encourage car dealerships to have them available.



A couple of participants wanted designated electric vehicle parking to be available to Government of Yukon staff.

A handful of participants wanted to see less air travel by Government of Yukon employees by using options such as teleconferencing where possible. A handful of participants supported a work from home policy, while a couple of participants asked for bike racks at all Government of Yukon buildings. One stakeholder noted that a reduction in Government of Yukon office space could have negative impacts on private sector building owners.

## Other

A couple of participants were curious about the applications of drone technology in Yukon. One participant wanted more information about the actions related to reducing transportation emissions, while a few other participants wanted more information on the emissions associated with tourists driving within the territory. A handful of participants suggested carbon credits be featured in *Our Clean Future* to offset emissions from travel, including an idea for tourists to be able to purchase Yukon-based carbon credits to offset the greenhouse gas emission from their travel to and within Yukon. One participant supported sensors on Government of Yukon fleet vehicles to collect weather data for public use.

## Homes and Buildings

### Renewable heating sources

Many participants were supportive of increasing the use of renewable heating sources, with one stakeholder noting that renewable heating reduces greenhouse gas emissions and helps adapt to the impacts of climate change. Participants noted interest in many types of renewable heating and heat energy storage, including common mention of biomass (wood), electric heating, heat pumps and electric thermal storage, which are discussed in more detail below. To a lesser degree, participants also mentioned hydrogen, solar, and wind energy for heating. A couple of participants were interested

in heat recycling technologies or systems. One stakeholder suggested that propane be used as a “transitional” heating system in the near term because it has lower greenhouse gas emissions than other fossil fuels and can be implemented quickly. A few participants thought that *Our Clean Future* is too focused on biomass energy or asked for more information about other renewable heating sources.

## Electric heating

A handful of participants explicitly noted support for electric heating, in addition to the participants that urged for electrification of heating and transportation needs. One participant commented that electric heating is too expensive.

## Heat pumps

A handful of participants explicitly noted support for heat pumps, while another handful of participants raised concerns about the performance or reliability of heat pumps, particularly in cold weather. A few participants, including a stakeholder group, noted the high cost of heat pumps and suggested working with industry or purchasing heat pumps in high volumes to help bring down the cost of the technology. One stakeholder was concerned that the target of 1,500 heat pump installations in the draft version of *Our Clean Future* was not realistic, while one participant suggested the target was not ambitious.

## Energy storage

Several participants were supportive of electric thermal storage (ETS), often requesting rebates or investment in ETS. A couple of participants were interested in household battery storage, and one stakeholder called for incentives for home energy storage more broadly.

## Geothermal energy

A handful of participants were supportive of geothermal energy for heating.

## Biomass (wood) energy

Several participants noted general support for biomass energy. Several participants emphasized the link between biomass energy and reducing forest fire risk. A few participants were interested in biomass district heating systems. A couple of participants called for firm biomass targets, including for forest fire risk reduction. One participant supported biomass because it is traditional, local and renewable.

Conversely, several participants were concerned about greenhouse gas emissions from biomass use, with a handful of these participants stating that biomass energy is not carbon neutral. One stakeholder requested that biomass initiatives be put on hold until the proposed lifecycle analysis of greenhouse gas emissions from biomass harvesting and use in Yukon is completed.

Several participants wanted to see wood for biomass energy solely come from “waste” sources, including wood from fire-smarting and other fuel management activities, beetle killed trees, standing dead and fire-killed trees, and by-products from the forest industry. One stakeholder suggested increasing incentives for fire-smarting to generate more wood for biomass energy. A couple of participants felt that fire-smarted wood is currently being wasted rather than used for energy, one stakeholder urged the Government of Yukon to ban slash burning from all land development and highway clearing projects, and another participant called for the use of cleared roadside vegetation for energy.

A handful of participants were concerned about the environmental impacts of harvesting or clearing live trees for biomass energy while a handful of other participants were supportive of using local trees for biomass energy, including willows and tree farming. A handful of participants were concerned about having sufficient local wood supply to meet biomass heating needs. A handful of participants, including a couple of stakeholder groups, emphasized the need to be able to access wood, including long-term license arrangements, simpler regulatory processes and higher volume and multi-year permits. One stakeholder called for regulatory changes to allow miners to sell wood from land they clear. One stakeholder suggested that proposed changes to the

Forest Resources Act to support the growth of the biomass industry be made prior to the next election. One participant was concerned about the continued availability of forest resources in a changing climate.

A handful of participants were also concerned about air pollution from biomass burning. One stakeholder noted support for stronger air emissions regulations and suggested looking at European standards for biomass emissions. One participant suggested using particulate interception devices and air cleaning technologies while a handful of participants suggested high efficiency wood stoves or other advanced heating technologies.

A couple of participants commented that biomass energy is not renewable in Yukon because our trees grow too slowly, while one stakeholder suggested that the amount of wood that could be sustainably cut in Yukon is much higher than what is currently allowed and that there is a need to educate the public on the sustainability of the forest industry. One participant questioned whether Yukoners would be supportive of industrial-scale wood harvesting.

One stakeholder suggested a private sector advisory group to advise the Government of Yukon on biomass action while another participant suggested creating a biomass working group.

### Renewable heating incentives

A handful of participants asked for incentives, or higher incentives, to support switching to renewable heating systems, while one stakeholder urged the Government of Yukon to stop providing rebates for high efficiency fossil fuel furnaces. One participant was interested in a wood stove exchange program, particularly one that is accessible to people with lower incomes. One participant suggested recognizing renewable heating use and decreased fossil fuel use in the Pioneer Utility Grant. One participant questioned who will pay the cost to switch to renewable heating systems and one participant thought government should not subsidize “uneconomic” heating systems.

## Energy retrofits

Several participants were explicitly supportive of energy efficiency retrofits and incentive programs and a handful of participants asked for existing incentive programs to be easier to access. A few participants stated that current incentives are not large enough to drive behaviour change while one participant called for existing incentives to be increased. One stakeholder suggested using revenues from the carbon levy to increase private sector energy subsidies to match government building subsidies. One participant was supportive of the planned \$30 million annual investment in energy retrofits, while another was concerned about where the money would come from. One stakeholder urged the Government of Yukon to provide capital and incentives for substantial, rather than minor, energy retrofits.

A few participants, including a government and stakeholder participant, noted that First Nations housing is often substandard and emphasized the importance of retrofitting First Nations housing. One of these participants called for more funding to retrofit First Nations housing, stating that current funding is not sufficient, while another suggested that retrofits would therefore be particularly beneficial for First Nations communities. One stakeholder suggested that some First Nations housing should be replaced rather than retrofitted, depending on its state. One government participant wondered about support for improving First Nations housing that is not owned by First Nations governments, while another participant noted that many individuals do not own their homes which prevents them from having control over improvements to their home.

A few participants raised concerns about waste generated from building retrofits, the embodied energy of materials used in retrofits or the use of toxic materials in retrofits. One participant was concerned about the affordability of retrofitted buildings. A couple of participants wondered about, or were concerned that, the protection of heritage buildings might limit possible energy efficiency improvements to these buildings.

## Loans

A few participants explicitly expressed support for the proposed loan program for energy efficiency retrofits, including a stakeholder group. Another stakeholder asked for the financing to be available to the private sector as well as households. One government partner was supportive of the concept but raised concerns about the administrative burden the program could place on municipalities. One stakeholder suggested that partnership with First Nations may be needed to deliver the program.

## New building incentives

A couple of participants asked for loans or funding to build energy efficient buildings while one stakeholder noted that the existing incentive program to encourage energy efficient construction has been very successful. One stakeholder asked for this program to include commercial buildings in addition to residential buildings. One participant asked for the rebate amounts under this program to be increased as the energy efficiency requirements in the program are heightened. A few participants noted that construction costs are higher outside Whitehorse, with one of these participants suggesting that financial support should therefore be higher as well.

## Building codes

Several participants were supportive of more stringent building codes for energy efficiency and a few participants explicitly supported the proposed action to develop net zero building codes for new and existing buildings. A couple of participants called for new codes to be adopted sooner. Several participants provided suggestions for what should be included in new building codes, including requirements for siting and construction for passive solar heating and solar panels, incentivizing the use of wood in construction to sequester carbon, disallowing fossil fuel heating systems, requiring energy storage, recognizing higher construction costs outside Whitehorse, allowances for log homes, requiring materials that reduce forest fire risk, and using information from other jurisdictions to inform code development.

A couple of stakeholders asked for more information or specificity regarding the net zero building code proposed in *Our Clean Future*. One stakeholder asked for clarification as to whether there would be a separate building code for retrofits in addition to the code for new buildings. A handful of participants raised concerns about the affordability of houses that are built to high energy efficiency standards, and one participant emphasized the importance of increased costs of energy efficient construction being recognized in the real estate market. One stakeholder suggested it would be difficult for old buildings on mine sites to comply with new building codes.

## Public buildings

A few participants indicated support for the commitment to retrofit Government of Yukon buildings, with one stakeholder asking for a target to be set, another stakeholder requesting a timeline of retrofits, and one participant recommending all Government of Yukon buildings be retrofitted by 2030. One stakeholder urged for Government of Yukon housing retrofits to exceed a 30 per cent reduction in greenhouse gas emissions.

One participant identified the need for baseline data on energy efficiency of Government of Yukon buildings while a stakeholder was supportive of the proposed action to conduct annual energy assessments and offered to play an oversight role. That stakeholder also supported the proposed action to incorporate greenhouse gas emissions and energy efficiency into the prioritization process for Government of Yukon building retrofits and new construction, and suggested these criteria be requirements in order for projects to proceed. One participant suggested that the Government of Yukon use its building retrofit projects to support equitable jobs within and outside the public service while another participant suggested the Yukon Housing Corporation build capacity through its buildings.

A handful of participants, including a few stakeholder groups, were supportive of the commitment to install biomass heating systems in Government of Yukon buildings, generally asking for an associated target to be set. One stakeholder asked for a timeline for the implementation of biomass heating in Government of Yukon buildings. One

participant called for all social housing to be switched to renewable heating to demonstrate leadership. One stakeholder was not supportive of using biomass energy in Government of Yukon buildings due to concerns about greenhouse gas emissions.

A handful of participants provided suggestions for new Government of Yukon buildings, including being energy efficient, not using fossil fuel heating and being heated with (or designed for) renewable heating sources. One participant suggested adopting manuals or guides from other jurisdictions rather than developing a Government of Yukon-specific building standards manual.

One participant suggested that, overall, Government of Yukon buildings should be carbon neutral by 2030 while another participant said the Yukon Housing Corporation should champion net zero buildings. A couple of participants said the Government of Yukon should lead by example in terms of energy efficiency in general.

One participant suggested landscaping around Government of Yukon buildings in a way that would reduce run-off and energy consumption and educate the public on sustainable habitats. One participant asked whether the Government of Yukon would support the City of Whitehorse to convert the Canada Games Centre to renewable heating while another participant suggested shutting down non-critical buildings, such as the Canada Games Centre, during extreme cold weather.

## Accessibility

A handful of participants raised concerns about the ability of Elders or seniors to access energy programs, with most of these participants commenting that Elders and seniors cannot afford loans. A couple of participants said that low-income individuals and households cannot access the subsidy programs while one participant suggested that programs be income-based.

A few participants emphasized the potential challenges with energy efficiency improvements to rental units, commenting on the limited incentive for landlords to make improvements if the tenant pays the utility bills and wondering about which party



would pay for the improvements and whether the landlord or the tenant would be eligible for related incentives. One participant thought that the Yukon Housing Corporation already investigates ways to encourage energy efficiency improvements to rental housing.

Some participants noted difficulty accessing programs and services in communities outside Whitehorse. One participant thought that a wood pellet plant would make wood heat more accessible to people that cannot undertake the physical labour typically involved with wood heat. One participant noted the affordability of wood heat, while another participant suggested that biomass costs would come down as volumes increase.

## Energy efficiency

A few participants explicitly noted the importance of energy efficiency and energy conservation, or asked for more focus on these items. A few participants called for energy efficiency targets, such as targets for avoided non-industrial load growth, overall energy consumption and reduced heating needs.

A couple of participants called for the lights in public buildings to be turned off when not in use, particularly at night, and one participant supported limiting the number of hours that Christmas lights can be turned on each day. One participant was concerned with the energy use of heat recovery ventilators.

## Demand-side management

Many participants were supportive of demand-side management (DSM) or called for more focus on, or financial support for, DSM. One participant called for a DSM target, such as no growth in non-industrial peak energy demand. A few participants indicated support for the proposed action to direct the Public Utilities Board to allow the public utilities to pursue DSM initiatives, with a couple of these participants calling for this action to move forward more quickly. One stakeholder asked for clarification regarding whether the intention of the DSM measures is to reduce electricity demand or shift

demand away from peak times. One participant did not think the utilities should be involved in DSM.

Several participants were supportive of smart meters and smart grids, including the Peak Smart pilot project. One participant was supportive of on-demand hot water heaters. Several participants called for time-of-use pricing while a couple of participants suggested an agricultural electricity rate in the summer to encourage local food production and the sale of excess electricity. One participant suggested using the media to encourage people to reduce energy use at peak times while another participant suggested capping the amount of electricity that the Yukon Energy Corporation is allowed to produce as a way of limiting demand.

## Building size and design

A handful of participants were supportive of smaller homes or not supportive of larger homes, suggesting higher electricity rates for large homes, eliminating regulatory barriers to building tiny homes, capping household size or energy use per household, and incentives to build smaller homes. A handful of participants were interested in innovating building technologies, including 3D printing, earth houses, and a local prefabricated housing plant. One stakeholder noted that some First Nations development corporations are interested in constructing net zero modular housing but would require government support to overcome high initial costs. A handful of participants noted support for natural building practices. One participant called for building practices that maintain permafrost, while one stakeholder suggested using more wood for construction as a form of carbon storage. One participant encouraged passive lighting systems. One participant noted a need for better housing design in general.

## Climate impacts

One participant commented that buildings in their community are being damaged by permafrost thaw, while another participant was supportive of actions to make buildings more resilient. One stakeholder was supportive of the proposed action to review the

Insurance Act to ensure Yukoners can access adequate insurance for climate impacts, while another stakeholder asked for the review to consider the difficulties that mine sites and other off-grid locations have in obtaining insurance. A handful of people expressed concern about the challenges in getting affordable insurance for damage due to climate-related events, particularly flooding and wildfires

## Education

A handful of participants provided suggestions for public education on energy use, including social marketing, education for businesses, sharing information about potential cost savings, education on heat recovery ventilators (HRVs) and general awareness-raising. One government participant thought it would be helpful for someone to come explain how to make homes more energy efficient.

## Training and capacity

Several participants commented on training needs for energy efficiency and renewable heating systems. A couple of these participants specifically noted the need to build capacity to retrofit and construct energy efficient buildings in First Nations communities, while a stakeholder wanted to see training for how to build energy efficient buildings more generally. One stakeholder identified a need to increase skilled labour and capacity in the biomass industry. Another participant noted a lack of skilled labour in the communities. One stakeholder asked what training will be required for heat pump installation and maintenance, while a government participant suggested model installations of technologies like heat pumps so people can see how they work. One participant thought that a list of government-certified contractors would be helpful.

One participant wanted to see their community have their own building inspector while another participant wanted a local energy efficiency assessor. Another participant questioned whether building inspectors have the necessary experience. One participant wanted to see project management support for housing improvements in the communities, while another participant asked for project management support for

condos to switch to electric heating, noting it would be a large and complex undertaking. One stakeholder called for technical support for businesses to switch to biomass energy.

## Employment

A handful of participants noted that biomass energy will support local jobs. One participant was concerned that it would be difficult to retain workers in the biomass industry due to higher paying mining jobs. One stakeholder suggested that energy retrofits could provide jobs particularly in First Nations communities, while one stakeholder suggested that the propane industry generates fair employment.

## Other policies and programs

A couple of participants wanted to see fines for people that leave their windows open in the winter. Another participant suggested mandatory testing and fines for fossil fuel heating systems. One participant suggested mandatory energy efficiency testing of all homes and buildings to inform energy retrofit priorities. One participant called for removing the tax exemption for heating fuel, while another participant suggested a heating fuel subsidy. One participant suggested providing tax incentives to encourage businesses to reduce their energy use. A few participants called for a program to help people get rid of their oil tanks, often in combination with support to switch to a renewable heating system. One participant said that home insurance needs to allow the use of wood as a primary heating source. One participant wanted log homes to be considered as an option in energy programs.

## Other

One participant wanted to see an action banning refrigerants or hydrofluorocarbons. One participant was supportive of making effective use of roofs, including green roofs and rooftop renewable energy installations. One participant suggested building energy efficient social housing to alleviate the housing crisis. One participant identified the need for annual maintenance of wood stoves.

## Energy Production

### Renewable and alternative energy sources

Many participants were supportive of developing a range of renewable and alternative energy sources. The most commonly identified energy sources were solar, wind, biomass (wood), geothermal, hydro, waste to energy and nuclear energy, including small modular reactors. A couple of participants also mentioned hydrogen. A handful of these participants specifically called for significantly more, or faster, renewable energy development. One participant said Yukon should be a clean energy leader.

However, a handful of participants were not supportive of large hydroelectric projects, particularly noting concerns with flooding of ecosystems and traditional territories. Several participants stated they are not supportive of nuclear energy, while one participant noted that nuclear would need to be socially acceptable. A couple of participants did not think nuclear and geothermal energy projects were feasible over the next 10 years. One stakeholder asked for more clarity around the proposed action to continue geothermal energy research while another participant called for geohazard mapping to be completed prior to developing geothermal legislation.

A handful of participants raised concerns about wind and solar energy being unreliable with the seasonality of these energy sources. A handful of participants thought solar and wind are too expensive, while one participant noted that energy costs will be lower with larger projects. A handful of participants were concerned about the environmental impacts of renewable energies, particularly outside Yukon.

### Climate impacts

Several participants emphasized the importance of diversifying Yukon's electrical grid with multiple sources of renewable energy, particularly to reduce vulnerability to climatic changes that may affect various energy sources. In particular, a handful of participants were concerned about our reliance on hydroelectricity and changes to water levels due to climate change. A couple of participants, including a stakeholder

group, noted the importance of the proposed glacier monitoring action. One stakeholder requested more detail on a couple of the proposed actions to make Yukon's electricity system more resilient to climate change, while one participant suggested expanding on current climate impacts research, rather than simply continuing it. Another stakeholder was supportive of the action to continue this research and indicated a desire to participate. One participant wanted proposed climate-resilience guidelines to include power lines and hydroelectric facilities.

## Independent power production

A handful of participants indicated support for the proposed action to increase the limit of the Standing Offer Program under the Independent Power Production (IPP) Policy. A handful of participants also suggested that the IPP rate be increased, noting that the current rate structure favours solar projects and is not consistent with a "climate change lens" because it excludes the federal carbon price and the social cost of carbon. A couple of participants noted the importance of supporting wind projects. One stakeholder encouraged a seasonal rate to promote generation in winter and early spring, suggested that smaller projects are not economical under the current rate structure and would like to see agricultural leases to provide land for independent power production projects. One participant suggested an option to issue a request for proposals for lowest cost energy outside of the IPP program.

## Microgeneration

Several participants were supportive of financial support for small-scale renewable electricity generation or of the Government of Yukon's existing microgeneration program, with several of these participants specifically interested in solar energy incentives. Two of these participants called for a program to allow repayment of the cost of solar panel installation through utility bills or property taxes, while one participant thought that Yukon's utilities should pay for the power produced through the microgeneration program.

## Renewable energy projects

A few participants explicitly noted that they support community-based renewable energy projects, while a few additional participants noted that projects should be led by, or completed in partnership with, First Nations. One government participant suggested that First Nations and municipalities do joint procurement for renewable energy equipment, consultants and other aspects of energy projects. One stakeholder suggested that all Yukoners should be able to economically participate in renewable energy projects in addition to First Nations. A handful of participants commented on funding for community-based renewable energy projects, wanting to see more funding, federal funding or funding for the private sector in addition to First Nations, municipalities and community organizations. One participant suggested that utilities be required to purchase power from community-based projects at a fair price. Another participant urged governments to invest in energy projects ahead of other public infrastructure. A couple of participants cautioned that the energy needs of short-term extractive companies should not detract from efforts to assist Yukon First Nations to transition off fossil fuels in self-sufficient ways.

## Energy storage

Many participants were supportive of electricity storage. A handful of these participants were specifically interested in pumped hydro storage. A handful of participants were interested in battery storage to support intermittent renewable energy sources, with a couple of these participants wanting to see mention of the Yukon Energy Corporation's battery in *Our Clean Future*. One of these participants was interested in batteries but also raised concerns about battery recycling. One participant suggested producing hydrogen during the summer as a form of energy storage.

One stakeholder noted that it is fine to develop excess renewable energy capacity, as surplus renewable electricity in the summer can be sold to seasonal customers, such as agricultural users.

## Grid connection

Several participants were supportive of connecting to British Columbia's electricity grid, while a couple of participants, including a stakeholder group, were not supportive. One stakeholder suggested connecting to Skagway's electricity grid.

## Regulation of public utilities

A couple of participants expressed support for the proposed action to update the *Public Utilities Act*, while a handful of participants, including a stakeholder group, called for the Public Utilities Board to consider environmental and social factors, or greenhouse gas emissions, in addition to cost in their decision-making process. One participant asked for more attention to how the government issues direction to the Yukon Development Corporation and the Yukon Energy Corporation, including reporting back. One stakeholder noted that some First Nations may be interested in creating their own utilities in order to sell power from renewable electricity projects.

## Renewable fuels

A couple of participants questioned the lifecycle greenhouse gas emissions of renewable fuels like biodiesel and renewable diesel used for electricity generation, while one participant wondered if there would be any issues with these fuels in cold climates. One participant urged for biodiesel to be used rather than fossil diesel, and for biodiesel only to be used to meet peak demand.

## Training

A handful of participants commented on the need for education and training on renewable energy and energy storage, including a desire for training for individuals to install home-based renewable energy systems, training programs at Yukon College and the need for an "energy workforce."



## Government of Yukon leadership

A handful of participants encouraged the Government of Yukon to install or test renewable energy technologies at Government of Yukon sites, including office buildings, social housing, highway camps and research stations.

## Other

One participant said the *Yukon Environmental and Socio-economic Assessment Act* process for energy projects should be updated.

## Communities

### Health impacts

Several participants expressed support for actions addressing the impacts of climate change on health. A handful emphasized they want this work to focus on mental health, especially in communities. Another respondent highlighted the need for more information on how to reduce the impacts of smoke inhalation due to wildfires.

### Ecosystem services

A couple of stakeholder groups wanted to see more focus in the strategy on the role that natural ecosystems play in supporting community resilience. For example, they noted that ecosystems such as wetlands can help sequester and store carbon, reduce the risk of floods and provide habitat for game species. They recommended land use and conservation planning consider the services ecosystems provide, and proposed more research be done in this area. One stakeholder suggested an action to rehabilitate natural carbon sinks.

### Wild species and their habitats

Many participants expressed support for the actions under the objective to “respond to the impacts of climate change on wild species and their habitats.” Of these, several participants wanted to see the strategy focus more heavily on this area, emphasizing the importance of turning research and knowledge into action, such as by taking

conservation measures. However, one respondent cautioned against increased species protection because they believe current measures are adequate.

A handful of participants spoke of needing more baseline information about how ecosystems are changing due to climate change, including changes to wildlife behaviour, fisheries and underground water resources. Others wanted to see more research focused on identifying which ecosystems and species are most resilient or vulnerable to climate change, so that this knowledge can be applied to management decisions. One stakeholder group called on the Government of Yukon to raise awareness of changes to species habitats and what this means for land users, so that people can ensure that their activities on the land do not disrupt species that are already vulnerable due to climate change and other human stressors. A handful of respondents wanted to see more action on managing invasive species in addition to tracking them, with one stakeholder emphasizing the importance of also tracking changes in wildlife diseases.

A couple of participants called for community-based monitoring of climate change that uses traditional knowledge, citizen science and Indigenous stewardship. One stakeholder urged the Government of Yukon to monitor changes to vulnerable coastal ecosystems on Yukon's north coast. The stakeholder suggested that an increased presence on the northern coast (via Indigenous guardians or other programming) could be an avenue for monitoring impacts to vulnerable ecosystems and species and informing adaptation strategies.

### Landscape planning

Several participants expressed support for considering climate change in landscape planning processes, including land use planning and protected areas planning. A handful of participants wanted to see more First Nations involvement in the management of protected areas, including through land guardian or monitoring programs, while others emphasized the importance of involving local communities in land use planning processes. A few participants expressed concern about the

compounded effects of climate change together with other development, such as deforestation and mining, on the environment and wanted to see these cumulative effects considered in land use planning.

## Emergency preparedness

Many participants expressed concern about our ability to prevent and respond to emergencies or natural disasters, especially wildfires, but also including flooding and other natural disasters. One stakeholder group expressed a desire to see floods and wildfires addressed as separate but related actions in the strategy and recommended integrating risk mapping measures with emergency preparedness planning. Another stakeholder group expressed a desire to see increased monitoring and weather network stations as well as greater integration of local and Indigenous knowledge to support prediction and management planning. One participant expressed concern about the accuracy of the science informing emergency preparedness planning.

One participant expressed a desire to see increased funding for Yukon animal shelters to provide services in case of natural disasters. One participant suggested providing additional resources to train and compensate search and rescue personnel. A handful of participants indicated that emergency preparedness plans should include food, energy and transportation security and resilience. One participant expressed concern about the location of the Whitehorse General Hospital in Riverdale and called for additional access roads. One stakeholder suggested that visitors to Yukon be considered in emergency planning, including how to communicate emergency preparedness information to visitors. That stakeholder noted that tourism and hospitality providers are often involved in providing emergency services and should be included in emergency preparedness planning. One stakeholder requested the involvement of Yukon First Nations Wildfire in emergency preparedness planning.

## Wildfires

Many participants expressed concern about wildfire risk management. Many participants expressed support for increased wildfire management measures including

the reduction of wildfire risk through fuel management activities and investing in wildfire management services. A few participants expressed concern that wildfire risk management measures are not heavily emphasized enough and should be given greater resources and emphasis.

A handful of participants expressed concern about wildfire management policies, with comments ranging from: a desire to expand the defined values used to guide decisions for wildland firefighting to include wild food and medicines, carbon storage and capacity, and wildlife habitat; concerns about balancing natural forest fire processes with the carbon release resulting from fires; support for allowing natural wildfire processes; and concern about the impacts of wildland fires on wildlife. One stakeholder group suggested that the Government of Yukon consider alternate and private support for wildfire emergency management. A handful of participants expressed interest in the inclusion of forest fire risk considerations in future community and land use planning.

A handful of participants expressed concern about health risks related to wildfires for the public as well as workers fighting fires. Health risk management suggestions included providing public air quality index reports, establishing clean air shelters for vulnerable citizens and providing worker insurance coverage for firefighters related to smoke inhalation health risks.

## Flooding

A handful of participants also expressed concern about the impacts of flooding. A couple of comments emphasized the importance of avoiding development in flood-prone areas, while a couple of others were concerned about the increasing cost to municipal governments to repair flood damage. One stakeholder said we should consider how ecosystems help protect against flooding in development decisions and protected areas planning.

## Community design

Several respondents expressed support for designing communities in a more efficient, environmentally conscious way. Examples are building more compact communities that support active transportation and by incorporating public transit into community design. A handful of participants emphasized the importance of supporting active transportation by considering the proximity of amenities and services in community design. A few participants suggested using financial incentives to encourage community densification, while a couple of others suggested designing communities with mixed land use zones. A handful of participants wanted to see densification of downtown Whitehorse to reduce the need for long commutes. One stakeholder suggested that land development be done by the private sector rather than government.

One stakeholder also emphasized the importance of using information about geohazard risks. They suggested that, by considering flooding or permafrost thaw during community design and land use planning, development in areas at risk of impacts from climate change could be avoided or mitigated. Some government participants expressed concern about the rising costs associated with replacing damaged or at-risk infrastructure, as well as the upfront cost to build to higher resilience standards.

## Food Security

Many participants noted the importance of ensuring food security in a changing climate, and this emerged as a significant theme in the public engagement comments. A couple of these participants noted that food security and local food production are one of the highest climate action priorities for Yukon First Nations, and asked for these areas to be better reflected in *Our Clean Future*. Issues that were raised include local food production, wild food harvest and diet, which are discussed in more detail below. One stakeholder identified a need to consider the role of biochar in food security.

## Local food production

Many people expressed support for food production in Yukon, including commercial farms, community greenhouses, fish farms and family gardens. Several respondents emphasized the need for more financial support, including affordable energy, for local food production, including to help agricultural producers reduce emissions and adapt to climate change, help make local agriculture more competitive compared to outside products and to support community initiatives. Several respondents also emphasized the need for more technical, human resource and project management support for agricultural projects at all scales. For example, a couple of respondents said there was a need to increase agricultural training opportunities and attract more farmers to Yukon to make local agriculture a success.

A handful of participants wanted to see sustainable local food production, expressing concerns about the impacts of industrial farming on the environment, and one participant called for support for zero waste food production. A few participants wanted to see a focus on emissions from the agricultural sector, while one participant supported carbon credits being available for organic farming.

A couple of participants noted the importance of conducting more research to better understand the success factors for local food production projects. A couple of participants spoke of the benefits of a warming climate for local agriculture, such as extending the growing season. A handful of participants encouraged the use of innovative solutions for growing in the North, such as more indoor growing, growing on reclaimed land or heating greenhouses to extend the growing season.

A couple of participants called on the Government of Yukon to lead by example in this area by examining policies that impact local food sourcing and ensuring all government activities support and sustain the production of local food.

## Wild Food

Many participants spoke to the importance of wild food that is hunted and gathered. The comments were mixed with concerns about combined pressures from human and

climate impacts on wildlife, drier conditions affecting wildlife, hunting pressures on wildlife populations, declines in berry and root plant productivity and the importance of habitat protection.

One partner group identified rising fuel costs as a barrier to harvesting activities, and one government participant noted that when the community cannot access wild foods, their carbon footprint increases due to flying in food. One response also identified gaps in terms of data and information with respect to locally sourced food. One stakeholder emphasized the importance of the North Slope for the Inuvialuit way of life and that the region remains a “breadbasket” for these communities.

## Activities on the land

Many participants talked about the importance of getting out on the land for traditional and cultural activities, recreation and tourism, subsistence and livelihoods. Many respondents acknowledged that the way of life of many Yukoners is changing as a result of climate change-related impacts, particularly on traditional activities, and called for actions to help communities adapt to the new climate reality. For example, one respondent said that it was harder to access wilderness areas in winter because rivers are no longer freezing. Another respondent was concerned that warmer waters were changing fish behaviour and spawning, making it more difficult to harvest wild food. A handful of respondents noted the importance of activities to increase safety on the land, such as sharing information on ice conditions and increasing search and rescue capacity, while a few other respondents questioned whether activities to promote safety on the land is in the scope of the strategy. One stakeholder wondered about a role for tourism operators to help share information about changing conditions on the land in remote locations.

Several stakeholder and government participants provided suggestions on how the Government of Yukon can help offset the challenges associated with a changing way of life and access to the land. One respondent called for harvesting support programs as well as programs to offset costs associated with accessing the land for traditional,

subsistence, and sharing economies. Another suggested that less regulation of off-road vehicles would make it easier to gather wild foods. One stakeholder group urged the Government of Yukon to develop monitoring programs to document observations on changing conditions and to use this information to develop adaptation strategies. Another respondent said that funding cultural revitalization programming in Yukon First Nations communities would help align adaptation efforts with meaningful reconciliation.

## Diet

A few respondents wanted to see more emphasis on promoting locally sourced and plant-based diets as a way to reduce greenhouse gas emissions and address food security.

## Local services and amenities

A few participants noted that the lack of jobs and services in remote communities encourages people to commute to Whitehorse, which increases greenhouse gas emissions and living costs. A few participants also pointed out that residents commute to and from Whitehorse as a result of housing gaps in communities, which also increases greenhouse gas emissions.

## Community location

A few participants suggested that their community should be relocated to reduce risks associated with permafrost thaw and flooding along with the costs of remediating or maintaining at-risk buildings. One participant suggested that communities work with local mining companies to fund relocation efforts.

A couple of participants noted that living in remote communities increased their carbon footprint and living costs as they regularly have to travel to and from Whitehorse, and questioned whether relocating could help them reduce their impact.



## Innovation

### Training

Many respondents identified the need for training and re-training efforts to increase participation in the green economy. Most of these respondents focused on technical skills associated with renewable energy projects and new heating technologies. A handful of participants focused on the role that Yukon College could play in offering more technical training focussed on green technologies. A handful of participants also emphasized the need for training to be made available in the Yukon's communities, not just in Whitehorse. One participant suggested that First Nations youth be trained as the future energy advisors in their communities.

### Innovation

The role of innovation in a green economy was raised by a handful of participants. A couple of these participants questioned how innovation would be supported and two more expressed scepticism on the successes of efforts to date. One respondent asked that technical working groups play a role in supporting innovation while another expressed the need for innovation in placer mining, airlines and transportation. A handful of respondents expressed concern that regulations would hinder green projects and create barriers to innovative new technologies and approaches. One stakeholder group urged for telecommunications infrastructure to be improved to support green economic development.

### Mining

Several participants suggested that mines be connected to the grid or be required to generate their own electricity from renewable sources, while one stakeholder suggested that mines be required to contribute to renewable energy projects in order to offset their energy demand and another stakeholder suggested mines set renewable energy targets that increase over the life of the mine. One stakeholder suggested that mines should receive a rebate if they successfully reduce their fuel consumption by a

certain amount. A couple of participants requested more research if mines or other industrial emitters are going to be allowed to purchase carbon credits to reduce their greenhouse gas emissions. These stakeholders also suggested that a certain percentage of mined materials be required to be used for green energy.

One stakeholder group wanted to see mine site remediation featured more prominently in *Our Clean Future*, while another participant expressed concern about the environmental impacts of mining. One stakeholder suggested that abandoned mines would be a good location for solar energy projects, but was not sure how to incorporate solar into the reclamation process.

## Tourism

A handful of participants commented on tourism, with some wanting to see more visitors to the territory and others wanting fewer visitors. One government participant suggested a separate greenhouse gas reduction target for tourism emissions and a couple other participants suggested that all industries, including tourism, be held accountable to be energy efficient and contribute to the development of a more sustainable economy. One stakeholder wondered whether Yukon could become a destination for conferences focused on climate change and green economy issues.

## Waste reduction

Many participants commented on the importance of reducing waste at the source. Several participants supported reducing packaging and eliminating single use plastics such as coffee cups, water bottles and plastic bags. Several participants indicated support for legislating against planned obsolescence and other efforts to increase product lifespan. A few participants were supportive of repairing products rather than throwing them away, including “right to repair” legislation, as well as circular economy initiatives like tool libraries. A couple of participants indicated they would like to see measures aimed at reducing construction waste and waste from commercial enterprises. A couple of participants recommended legislating an extended producer responsibility system for producers to manage disposal at the end of a product’s lifespan.

A handful of participants indicated they would like to see public education on waste reduction to allow the public to better understand product lifecycles and inform choices with regards to consumer purchases. One participant wanted to see the Government of Yukon set goals for reducing food waste.

## Waste diversion

Many participants wanted to see improved waste diversion measures. Several of these wanted to see increased support for recycling, including recycling centres in communities and the inclusion of more materials in recycling programs. Several participants indicated they would like glass added back to the list of materials recycled in Yukon. A handful of participants said they would like to see increased support for composting, including increased availability of municipal composting programs and advice on how to do private composting while mitigating wildlife risks. A couple of participants wanted to see support for free stores to increase reuse of items.

## General waste management

A couple of participants indicated they would like to see increased funding allocated to waste management and a handful of participants indicated they would like to see more effective or appropriate waste management policies. One participant raised concerns about poor waste separation at some transfer stations. A couple of participants indicated concerns about our ability to manage increased waste volumes resulting from high tourist traffic in some areas of Yukon, while a few participants raised concerns that anticipated changes to waste tipping fees would encourage illegal dumping. A couple of participants commented that they would like to see better waste management reporting in terms of waste diversion and quantifying waste inputs. A couple of participants commented that they would like to see Government of Yukon leadership in the form of innovation in the approach to wastewater management.

## Leadership

### Youth

Many participants commented on educating and empowering youth. Several of these participants called for climate change and energy content, as well as other areas such as local food production, to be required or enhanced in the school curriculum, and one participant suggested that the focus of climate change education should be on senior high school students. A handful of participants emphasized the importance of experiences on the land, and one participant specifically noted the importance of transferring knowledge from First Nations Elders to youth. A couple of participants suggested land-based learning, sharing and teaching of traditional knowledge, mental, spiritual and emotional health, early childhood development, and reconciliation in the education system were missing from *Our Clean Future*. A couple of participants called for a systemic overhaul to the way the environment and sustainability are incorporated into the school system. One stakeholder participant was interested in participating in youth education programs.

Many participants commented on the proposed action to develop a Youth Panel on Climate Change. A handful of these participants provided general feedback that they support the creation of the Youth Panel. Other participants provided suggestions for how the panel should operate and make decisions, panel membership and what activities and topics the panel should conduct and discuss. One stakeholder group commented that they support the proposed action on youth mentorship opportunities, and encouraged the Government of Yukon to bring youth to energy conferences as well as climate change events.

### Capacity

Several participants identified limited capacity as a barrier to First Nations and municipal action on climate change, noting the importance of project management support, trained staff and funding. Some of these participants suggested that funding programs should be simpler to apply for and report on. One participant suggested that

feasibility studies are not a good use of funding. Several participants noted the challenges that rural communities face due to costs of development, lack of services and increased climate risks.

## Information sharing

A couple of participants suggested creating a list of projects communities could undertake would be helpful. One government participant urged for more communication between communities.

## Awareness

A handful of participants asked questions about climate change that highlighted interest in, or a lack of knowledge about, what climate change is and the causes of climate change. One participant was also unsure about what is meant by “the economy.”

A handful of participants believed that it is difficult for people to understand how their actions affect climate change and what they can do to make a difference. Another handful of participants called for information on what actions people can take. A handful of participants suggested that public communications use positivity and success stories to motivate people to take action, rather than fear. One participant wanted to see people talk about climate change more.

## Public education

Many participants emphasized the importance of public education on climate change, highlighting the need to motivate people to change their habits and lifestyles, a desire to see factual information communicated, the value of the potential cost savings of taking action on climate change (at an individual and societal level), an interest in education about energy sources, the value of behavioural science and the importance of connecting with nature. One participant advocated for a public education campaign to emphasize the importance of efforts from individuals and non-governmental

organizations and others wanted to see the Government of Yukon raise awareness of its actions on climate change.

## Government of Yukon operations

Many participants stated their support for Government of Yukon reducing its fossil fuel use and a few participants specifically called on the Government of Yukon to lead by example through its operations. A couple of participants wanted to see a greenhouse gas reduction target for the Government of Yukon's operations, while one stakeholder called for the Government of Yukon to implement a separate climate change plan for its own operations in addition to *Our Clean Future*. One stakeholder group supported the focus on reducing emissions related to Government of Yukon procurement.

## Government of Yukon decision-making

Several participants provided comments related to the proposed integration of a climate change lens into the Government of Yukon's decision-making process. A handful of respondents called for more information about how the climate change lens would work, including how it would interact with other Government of Yukon strategies and whether it would impact the *Yukon Environmental and Socioeconomic Assessment Act* process. One participant was also concerned that the climate change lens would only apply to the Executive Council Office and the Department of Environment.

## Training

Several participants commented on the proposed action to provide climate change training to Government of Yukon staff, or suggested developing training and guidelines to support successful implementation of *Our Clean Future*. These participants emphasized the importance of building capacity among Government of Yukon staff to consider climate change in planning and decision-making, asked for the training to include information about renewable energy in addition to climate change, or asked for the training to be made available to non-governmental organizations as well.

## Gathering information

A few respondents expressed support for risk assessments, and a risk-based approach to informing decision-making. One stakeholder provided detailed suggestions related to the proposed action to regularly assess the impacts of climate change on Yukon communities. One stakeholder mentioned that while risk assessments are in line with the dominant thinking among adaptation experts, they only provide a snapshot in time. The stakeholder encouraged the Government of Yukon to consider how to more comprehensively implement risk management approaches in a way that systematically considers and documents risks and relevant mitigation measures.

A few participants also commented on the proposed action to report on the impacts of climate change on Yukon's economy, asking for the reporting to include projections and recent impacts or to use a defensible methodology, or questioning whether climate change is affecting Yukon's economy.