

Shockproofing Yukon: Skills Research and Engagement for a Resilient and Inclusive Future

Final Report

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FSC is a forward-thinking centre for research and collaboration dedicated to preparing Canadians for employment success. We believe Canadians should feel confident about the skills they have to succeed in a changing workforce. As a pan-Canadian community, we are collaborating to rigorously identify, test, measure, and share innovative approaches to assessing and developing the skills Canadians need to thrive in the days and years ahead. The Future Skills Centre was founded by a consortium whose members are Toronto Metropolitan University, Blueprint ADE, and The Conference Board of Canada

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1. About the Project

Shockproofing Yukon: Skills Research and Engagement for a Resilient and Inclusive Future seeks to identify the workforce skills that the Yukon will most need in the coming years. The research looks to answer the question, *“What are the key challenges and opportunities for skills and innovation-led growth that will help Yukoners to recover from COVID-19 (or future shocks) through sustainable and resilient economic development?”*

The project investigates the current reality of work in the territory and which skills are likely to be most in demand by 2030. Specific objectives include:

- **Engaging** with key organizations/individuals relating to skills development in the Yukon
- Identifying **key challenges and opportunities** relating to skills development and innovation-led growth in the Yukon
- Conducting **deep dives into sectors** that are likely to be strong drivers for the territory’s future economy

The aim of the research is to help ensure that the Yukon continues to develop a strong economy following the COVID-19 pandemic, including in First Nations and rural communities. We hope that the findings will help Yukon governments, Yukon University (hereafter YukonU), schools, and businesses to make informed decisions relating to investments in skills training.

1.1 Addressing Research Gaps

While extensive research on the future of work exists, the often generalized findings mean that this research is not always applicable to the Yukon context. This project seeks to address the fundamental gap in the literature on what the ‘future of work’ may mean for the Yukon, and how macro trends are or are not yet impacting the territory. The research aims to highlight the future skills needed from the point of view of Yukoners.

Numerous quantitative reports exist looking at employment and demand for labour skills in the Yukon.¹ However, **this study considers issues relating to the supply of labour and skills** in the territory using qualitative methods (i.e., interviews and focus groups). The significance of this project is that it **provides depth and insight** into the unique socio-economic context of the territory, exploring current barriers and future opportunity areas.

1.2 Methodology

This qualitative study is based on secondary research (i.e., a review of academic and grey literature and key policy documents) plus primary research with **70 Yukon-based participants**.

The primary research involved one-to-one interviews and focus groups, conducted between December 2021 and May 2022. Additionally, around 20 people were consulted in the planning

¹ For example, reports from Yukon Bureau of Statistics such as the Yukon Labour Demand Survey, the Government of Canada’s Yukon Employment Outlook Report and Labour Market Bulletin - Northwest Territories, Nunavut, and Yukon, and reports from the Conference Board of Canada.

stages of the project to help inform its development. The planning involved feedback and guidance from numerous stakeholders, ranging from YukonU professors to First Nation development corporations and educational leaders. The research plan also received review and approval from YukonU's Research Ethics Board (REB).

See Appendix A for more detail on the research methodology.

1.3 Document Map

- Section 2 introduces some of the contextual 'megatrends' that are influencing the global workforce and are relevant to the territory's future.
- Section 3 analyzes the context of the Yukon, including challenges and unique values propositions for the territory.
- Section 4 describes the sectoral deep dives for five of the Yukon's most important sectors: mining, tourism, creative and cultural industries, clean energy, and the public sector.
- Section 5 includes key considerations for YukonU relating to skills/training, networking/mentorship, other support (e.g., capital), and future research directions.

2. Future of Work Megatrends

From the multiplicity of digital services and the rise of the gig economy, to increased attention on workplace wellbeing and community impact, work as we know it is transforming. The future of work has departed from the nine-to-five office day job towards alternative working styles, a diverse labour force, and innovative priorities.

For instance, the COVID-19 pandemic and accompanying economic crisis have resulted in significant labour market disruption on a global scale. While the pandemic led to significant layoffs in many sectors worldwide, it has also dramatically accelerated some trends – especially digitization and flexible work arrangements.

This section introduces megatrends affecting the future of work, according to existing academic research and ‘grey literature’ (for example, reports created by industry organizations or companies). Little of the existing research focuses directly on the Yukon. However, where possible, this section highlights the relevance of each trend to the territory.

2.1 Demographic Changes

2.1.1 Aging Population

Demographic changes are having a major impact on the future of work. Many countries, including Canada, are experiencing a decline in fertility rates, coupled with advances in healthcare, that continue to shift their population distribution towards older ages.² This shift to older age comes along with a decline in the growth rate of the labour force.³

Most often, the future of work tends to focus on the younger generation and their interactions with technology in workspaces. However, the older generation forms a substantial part of the workforce. In Canada, the older worker employment rate stands at 61.8% and it is predicted that by 2036, more than half the population will be aged 55 years or older.⁴ About 20% of government employees in Canada are already 55 years and above.⁵ Older workers are not only

² Thornton, J., Russek, H., & O’Neil, T. (2019). *Turn and Face the Strange: Changes Impacting the Future of Employment in Canada*. Brookfield Institute for Innovation Entrepreneurship. Retrieved from: <https://brookfieldinstitute.ca/turn-and-face-the-strange-changes-impacting-the-future-of-employment-in-canada/>

³ Balliester, T., & Elsheikhi, A. (2018). The Future of Work: A Literature Review. *ILO Research Department Working Paper*, 29.

⁴ Bergen, S., Crawford, L., Duchaine, I., Grehan, J., and Senechal, C. (2020). Benefit not Burden: Older Workers and the Future of Work in Canada. An Action Canada Task Force Report. Public Policy Forum Retrieved from: <https://ppforum.ca/publications/benefit-not-burden-older-workers-and-the-future-of-work-in-canada/>

⁵ KPMG (2021). Modernizing Government: Global Trends an Era of Public Service that is Agile, Digital and Customer Centric. Retrieved from: <https://assets.kpmg/content/dam/kpmg/xx/pdf/2021/04/modernizing-government-global-trends.pdf>

sensitive to technological transformation and changes occurring in the workplace, but they also often have limited access to training opportunities.⁶

An aging population also means much of the workforce is retiring. With limited human resources available to replace retirees, this trend is increasing labour shortages across sectors.⁷ This is also an issue in the Yukon, where labour shortages are being exacerbated by the aging population. The Yukon's population has seen considerable change in the past ten years (see Figure 1), as the number of individuals over 55 is growing substantially. From 2010 to 2020, the population aged 60 to 74 increased by 71.6%. This was nearly twice the growth rate of the population aged 30 to 44, which increased by 36.8%. The population aged 75 years and over saw the largest increase, at 78.9%.⁸

Among Canada's three territories, not only does the Yukon have the oldest population and a greater number of residents retiring from the workforce, but it also has a lower fertility rate (1.6, below the 2.1 required rate to replace the aging population).^{9,10} Certain industries are especially affected by this trend and have a higher percentage of workers over the age of 55. The 2016 census reported that, of the Whitehorse workforce, 37% of those working in professional services were 55 and over.¹¹ Additionally, more than a quarter of workers in mining, construction, transportation, education, finance, and insurance were over the age of 55.¹²

The retirement rates could pose challenges to the future of work in terms of human resource needs. This point is discussed further in 'Labour Shortages' below (Section 3.2.1).

⁶ Employment and Social Development Canada (2018). Promoting the Labour Force Participation of Older Canadians. Retrieved from: <https://www.canada.ca/content/dam/canada/employment-social-development/corporate/seniors/forum/labour-force-participation/labour-force-participation-EN.pdf>

⁷ Leithman G. (2019). Canada's Aging Workforce Should Have Been a Major Election Issue. The Conversation. Retrieved from: <https://theconversation.com/canadas-aging-workforce-should-have-been-a-major-election-issue-123395>

⁸ Yukon Bureau of Statistics. (2020a). *Population Report Fourth Quarter, 2020*. Retrieved from: https://yukon.ca/sites/yukon.ca/files/ybs/populationq4_2020.pdf

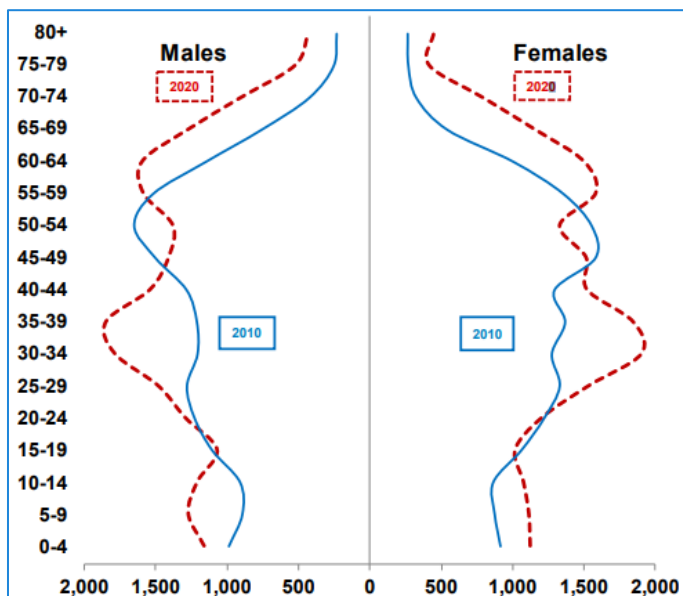
⁹ The Conference Board of Canada (2019). Territorial Outlook Economic Forecast. Retrieved from: https://open.yukon.ca/sites/default/files/Tab%25201_Conference%2520Board%2520of%2520Canada_Territorial.pdf

¹⁰ The Conference Board of Canada (2020). Shielded From the Worst: Territorial Snapshot. Yukon. Retrieved from: <https://www.conferenceboard.ca/focus-areas/canadian-economics/2020/territorial-snapshot/yukon>

¹¹ Immigration, Refugees and Citizenship Canada. (2020). Economic Profile Series: Whitehorse, Yukon. (Catalogue no. Ci4-193/18-2019E-PDF). Retrieved from: https://publications.gc.ca/collections/collection_2021/ircc/Ci4-193/Ci4-193-18-2019-eng.pdf

¹² Immigration, Refugees and Citizenship Canada. (2020). Economic Profile Series: Whitehorse, Yukon. (Catalogue no. Ci4-193/18-2019E-PDF). Retrieved from: https://publications.gc.ca/collections/collection_2021/ircc/Ci4-193/Ci4-193-18-2019-eng.pdf

Figure 1: Age and Sex Distribution of the Population, 2010 and 2020, Yukon



Source: Yukon Bureau of Statistics, 2020

2.1.2 Labour Migration Key to Population Growth

Labour migration is a major factor in the changing demographics of countries across the world. If supportive policy frameworks are in place, labour migration could mitigate the deceleration of the global labour force growth.¹³ Migratory increase is projected to be the key factor contributing to Canada's population growth in the coming decades.¹⁴

Immigration will be particularly important for the Yukon, as the number of young people coming through the education system is insufficient to meet the demands of the current labour market.¹⁵ The Yukon's immigration profile is discussed further in Section 3.1.3.

2.2 Technology, Automation, and Digitization

At the centre of the future of work is **technology, automation, and digitization**. While technology brings enormous improvements to the future of work that will drive growth across

¹³ Balliester, T., & Elsheikhi, A. (2018). The Future of Work: A Literature Review. *ILO Research Department Working Paper*, 29.

¹⁴ Statistics Canada. (2019). *Population Projections for Canada (2018 to 2068), Provinces and Territories (2018 to 2043)*. Retrieved from: <https://www150.statcan.gc.ca/n1/en/pub/91-520-x/91-520-x2019001-eng.pdf?st=UWvnLbHE>

¹⁵ Immigration, Refugees and Citizenship Canada. (2020). Economic Profile Series: Whitehorse, Yukon. (Catalogue no. Ci4-193/18-2019E-PDF). Retrieved from: https://publications.gc.ca/collections/collection_2021/ircc/Ci4-193/Ci4-193-18-2019-eng.pdf

industries (e.g., environmental management, safety performance, and improved productivity)¹⁶, this growth is accompanied by workforce disruptions, thus impacting workers' roles (e.g., displacing certain human tasks to be performed by machines).¹⁷ Technology further impacts local community employment as skills requirements continue to change, from manual repetitive task to higher skilled tasks involving data analysis and remote centre operations.¹⁸

As occupations shift, major transitions lie ahead for workers, including **potential job displacements**. Analysis by McKinsey suggests that by 2030, 3 to 14% of the global workforce will need to switch occupational categories.¹⁹ Further, all workers will need to adapt as their occupations are transformed by technology.²⁰ The research suggests that providing job retraining and enabling workers to learn new skills throughout their lifetime will be a critical challenge. **Midcareer retraining** will also become more important as skill needs evolve.²¹ Some authors argue that successful job transitions also require an understanding of who is losing their jobs, who needs workers, and whether these two groups can be linked.²² In addition, it is

¹⁶ Black N. and Sandstrom J. (2021). 7 Insights to Help the Mining Industry Prepare Its Workforce for the Future. WEF. Retrieved from: <https://www.weforum.org/agenda/2021/05/7-insights-mining-industry-prepare-workforce-future/>

¹⁷ World Economic Forum. (2020). The Future of Jobs Report 2020. Geneva: *World Economic Forum*. Retrieved from: https://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf

¹⁸ Davy A. (2021). Forces Shaping the Future of the Mining Industry. *International Council on Mining & Metals*. Retrieved from: <http://www.icmm.com/website/presentations/mining-principles/forces-transcript.pdf>

¹⁹ Manyika, J., Lund, S., Chui, M., Bughin, J., Woetzel, J., Batra, P., & Sanghvi, S. (2017). Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation. *McKinsey Global Institute*. Retrieved from: <https://www.mckinsey.com/~media/mckinsey/industries/public%20and%20social%20sector/our%20insights/what%20the%20future%20of%20work%20will%20mean%20for%20jobs%20skills%20and%20wages/mgi-jobs-lost-jobs-gained-executive-summary-december-6-2017.pdf>

²⁰ Manyika, J., Lund, S., Chui, M., Bughin, J., Woetzel, J., Batra, P., & Sanghvi, S. (2017). Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation. *McKinsey Global Institute*. Retrieved from: <https://www.mckinsey.com/~media/mckinsey/industries/public%20and%20social%20sector/our%20insights/what%20the%20future%20of%20work%20will%20mean%20for%20jobs%20skills%20and%20wages/mgi-jobs-lost-jobs-gained-executive-summary-december-6-2017.pdf>

²¹ Manyika, J., Lund, S., Chui, M., Bughin, J., Woetzel, J., Batra, P., & Sanghvi, S. (2017). Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation. *McKinsey Global Institute*. Retrieved from: <https://www.mckinsey.com/~media/mckinsey/industries/public%20and%20social%20sector/our%20insights/what%20the%20future%20of%20work%20will%20mean%20for%20jobs%20skills%20and%20wages/mgi-jobs-lost-jobs-gained-executive-summary-december-6-2017.pdf>

²² Lamb, C., Vu, V., & Huynh, A. (2019). *Lost and Found: Pathways from Disruption to Employment*. Brookfield Institute for Innovation + Entrepreneurship. Retrieved from: <https://brookfieldinstitute.ca/wp-content/uploads/Lost-and-Found-ONLINE-2.pdf>

necessary to identify and address barriers that may hinder transitions, such as overly restrictive credential requirements.²³

Recent research analyzing the probability of automation based on census subdivisions found that while some workers in all subdivisions face the risk of their jobs being automated, the proportion of **workers in rural areas face significantly greater risk than workers in urban centres**.²⁴ Therefore, this move towards automation could exacerbate pre-existing gaps in urban-rural labour market outcomes.²⁵

A recent Canadian occupation forecast found that **Indigenous workers** were significantly more likely to work in occupations projected to decrease than in those projected to grow.²⁶

Indigenous men in particular are disproportionately represented in occupations projected to decrease when compared to non-Indigenous people.²⁷ Some authors warn that Indigenous people may be harder hit by technological disruption because the occupational roles held by Indigenous workers are associated with less transferability, in part due to lower access to educational and training opportunities and resulting lower rates of qualification attainment.²⁸

The disruptions in the future of work are not only about job displacements, as **new and emerging roles** will be created to oversee automated roles.²⁹ **Future skills requirements are both digital and non-digital**. Digital skills have been defined along a spectrum (see **Error! Reference source not found.**) with four distinct categories from least to most digitally intensive:

²³ Lamb, C., Vu, V., & Huynh, A. (2019). *Lost and Found: Pathways from Disruption to Employment*. Brookfield Institute for Innovation + Entrepreneurship. Retrieved from: <https://brookfieldinstitute.ca/wp-content/uploads/Lost-and-Found-ONLINE-2.pdf>

²⁴ Speer, S., & Ahmed, W. (2020). *A Place-Based Lens to the Future of Work in Canada*. Public Policy Forum. Retrieved from: <https://ppforum.ca/publications/a-place-based-lens-to-the-future-of-work-in-canada/>

²⁵ Speer, S., & Ahmed, W. (2020). *A Place-Based Lens to the Future of Work in Canada*. Public Policy Forum. Retrieved from: <https://ppforum.ca/publications/a-place-based-lens-to-the-future-of-work-in-canada/>

²⁶ Rivera, D., Rajabi, Y., Zachariah, J., & Willoughby, R. (2020). *Ahead by a Decade: Employment in 2030*. Brookfield Institute for Innovation + Entrepreneurship. Retrieved from: <https://brookfieldinstitute.ca/ahead-by-a-century-employment-in-2030/>

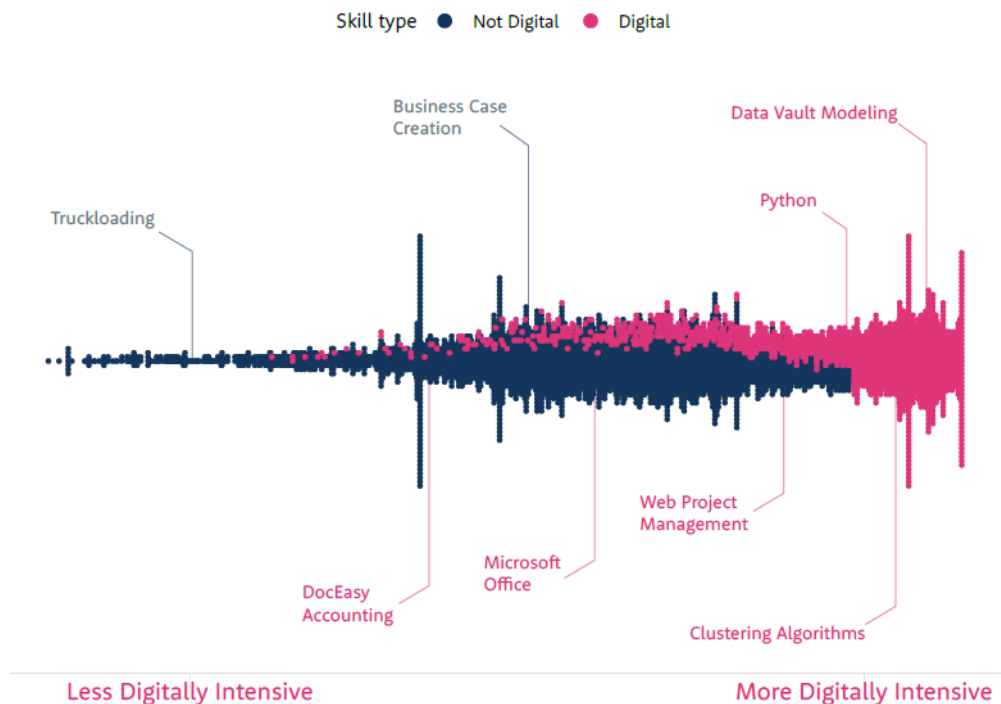
²⁷ Rivera, D., Rajabi, Y., Zachariah, J., & Willoughby, R. (2020). *Ahead by a Decade: Employment in 2030*. Brookfield Institute for Innovation + Entrepreneurship. Retrieved from: <https://brookfieldinstitute.ca/ahead-by-a-century-employment-in-2030/>

²⁸ Skudra, M., Avgerinos, A., & McCallum, K. E. (2020). Mapping the Landscape: Indigenous Skills Training and Jobs in Canada. Public Policy Forum.

²⁹ Davy A. (2021). Forces Shaping the Future of the Mining Industry. *International Council on Mining & Metals*. Retrieved from: <http://www.icmm.com/website/presentations/mining-principles/forces-transcript.pdf>

workforce digital skills, data skills, system infrastructure skills, and software/product development skills.³⁰

Figure 2: Digital Skill Spectrum



Source: Vu, Lamb & Willoughby, 2019

Additionally, the literature indicates that there is a **relatively low risk of automation for occupations requiring abstract, complex problem solving**. Non-digital skills include teamwork, judgment, and problem-solving skills, among others. These skills are discussed further in the following section (Section 2.3).

Open questions remain about **whether technology-related disruption will accelerate following COVID-19** amid economic crisis. Previous research finds that automation has tended to increase during recessions.³¹ In the US, the pandemic accelerated automation by displacing workers in more automatable occupations that were more vulnerable to the pandemic's effects. Vulnerable occupations include those that do not permit remote work, are in hard-hit sectors,

³⁰ Vu, V., Lamb, C., & Willoughby, R. (2019). *I, human: Digital and Soft Skills in a New Economy*. Brookfield Institute for Innovation + Entrepreneurship. Retrieved from: <https://brookfieldinstitute.ca/i-human-the-digital-and-soft-skills-driving-canadas-labour-market/>

³¹ Lamb, C. (2016). *The Talented Mr. Robot: The Impact of Automation on Canada's Workforce*. Brookfield Institute for Innovation + Entrepreneurship. Retrieved from: <https://brookfieldinstitute.ca/report/the-talented-mr-robot/>

or have a high risk of COVID-19 transmission.³² However, it is still too early to conclude whether the shift is permanent.

The digitization trend is also affecting the Yukon and local companies have been developing and adopting automation in their work. For example, Yukon start-up Proof Data Technology (founded in 2017 and merged with Toronto based Daylight Automation Inc. in 2022) specifically designed a system that moved government away from paper to a central platform, and it has worked with the Government of Yukon.³³ Furthermore, White Gold, a Yukon exploration company, has contracted AI exploration company Minerva Intelligence to help “identify promising drill targets.”³⁴

Research on this topic in the Yukon remains limited. A 2017 study by Nordicity for the Government of Yukon's Technology and Telecommunications Development Directorate highlighted the **need for technological skills** development to enable Yukon residents to grow the local innovation and technology sector.³⁵ More recent data on the status of digital skills in the Yukon is lacking.

2.3 Increasing Demand for Social Skills and Creative, Critical Thinking

As advances in technology continue to narrow the gap between humans and machines, the value of non-technical skills or ‘soft skills’ is predicted to increase.³⁶ The literature indicates that ‘soft’ social skills and creative and critical thinking will continue to become more important in the future of work. Skills such as creativity, critical thinking, and interpersonal skills,³⁷ people management and oversight³⁸ are less likely to be automated in coming years. These skills relate

³² Ding, L., & Molina, J.S. (2020). “Forced Automation” by COVID-19? Early Trends from Current Population Survey Data. Federal Reserve Bank of Philadelphia. Retrieved from: <https://www.philadelphiafed.org/community-development/workforce-and-economic-development/forced-automation-by-covid-19>

³³ Waddell S. (2022). Yukon Start-Up Purchased by Toronto Company. Retrieved from: <https://www.yukon-news.com/life/yukon-start-up-purchased-by-toronto-company/>

³⁴ Hiyatel A. (2020). AI to the Rescue. Retrieved from: <https://www.canadianminingjournal.com/featured-article/ai-to-the-rescue/>

³⁵ Nordicity. (2017). Technology and Telecommunications Development Directorate (TTD) Program Review for the Government of Yukon.

³⁶ Walker, V., Bowkett, G., & Duchaine, I. (2018). All Companies are Technology Companies: Preparing Canadians with the Skills for a Digital Future. *Canadian Public Policy*, 44(S1), S153-S158.

³⁷ Oschinski, M., & Wyonch, R. (2017). Future Shock? The Impact of Automation on Canada's Labour Market. *The Impact of Automation on Canada's Labour Market (March 16, 2017)*. CD Howe Institute Commentary, (472).

³⁸ Lamb, C. (2016). *The Talented Mr. Robot: The Impact of Automation on Canada's Workforce*. Brookfield Institute for Innovation + Entrepreneurship. Retrieved from: <https://brookfieldinstitute.ca/report/the-talented-mr-robot/>

to jobs involving high level of interactions with other people, such as managers, teachers, and nurses.³⁹

For Canadian workers, **five social skills and abilities have been identified that are foundational for future work:** fluency of ideas (or the ability to brainstorm), memorization, instructing, persuasion, and service orientation.⁴⁰ Additionally, Canadians consider social and emotional skills (SES) to be critical for career success across a range of sectors.⁴¹ SES encompasses skills such as communication, interpersonal skills, and leadership.

To date, there is little published research on the demand or supply of social or 'soft' skills in the Yukon. Labour supply in the Yukon is discussed further in Section 3.2.

³⁹ Urban, M. C., & Johal, S. (2020). *Understanding the Future of Skills: Trends and Global Policy Processes*. Retrieved from: <https://ppforum.ca/publications/understanding-the-future-of-skills/>

⁴⁰ Rivera, D., Rajabi, Y., Zachariah, J., & Willoughby, R. (2020). *Ahead by a Decade: Employment in 2030*. Brookfield Institute for Innovation + Entrepreneurship. Retrieved from: <https://brookfieldinstitute.ca/ahead-by-a-century-employment-in-2030/>

⁴¹ Higham, S. (2020). *Social and Emotional Skills are Top of Mind Across Canada*. The Conference Board of Canada, Ottawa.

2.4 Climate Change and Environmental Considerations

Climate change is a global challenge, with effects ranging from extreme weather to resource scarcity and related environmental effects. In response, many countries are advancing environmental sustainability initiatives. **The future of work will be impacted by both the direct impacts of climate change as well as efforts to advance sustainability.**⁴² While traditional non-renewable energy sectors will face job cuts, jobs in eco-friendly retail and other green occupations are expected to grow.⁴³ The extent of these potential impacts depends, in part, on the broader government policy responses to climate change.⁴⁴

Climate change has implications for Canada's labour market. The tourism industry may experience declines in areas that have regular occurrences of wildfires and flooding, and industries tied to natural resources, such as forestry, will equally be negatively impacted. Canada may experience increased demand for products and services that support flood and wildfire monitoring and disaster recovery.⁴⁵

Northern Canada is warming at more than double the global rate.⁴⁶ The Government of Yukon declared a climate change emergency in 2019 and released the report *Our Clean Future: A Yukon strategy for climate change, energy and a green economy* in 2020.⁴⁷ The plan aims to reduce greenhouse gas emissions, including from the mining sector, and help the territory transition to a greener economy. The investments in renewable electricity needed to meet the plan's greenhouse gas reduction targets will create a substantial number of jobs in the green economy. Section 4.5 discusses Yukon's clean energy sector in detail.

2.5 Flexible Work Arrangements

⁴² Montt, G., Fraga, F., & Harsdorff, M. (2018). *The Future of Work in a Changing Natural Environment: Climate Change, Degradation and Sustainability*. Retrieved from: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---cabinet/documents/publication/wcms_644145.pdf

⁴³ Balliester, T., & Elsheikhi, A. (2018). *The Future of Work: A Literature Review*. ILO Research Department Working Paper, 29.

⁴⁴ Thornton, J., Russek, H., & O'Neil, T. (2019). *Turn and Face the Strange: Changes Impacting the Future of Employment in Canada*. Brookfield Institute for Innovation Entrepreneurship. Retrieved from: <https://brookfieldinstitute.ca/turn-and-face-the-strange-changes-impacting-the-future-of-employment-in-canada/>

⁴⁵ Thornton, J., Russek, H., & O'Neil, T. (2019). *Turn and Face the Strange: Changes Impacting the Future of Employment in Canada*. Brookfield Institute for Innovation Entrepreneurship. Retrieved from: <https://brookfieldinstitute.ca/turn-and-face-the-strange-changes-impacting-the-future-of-employment-in-canada/>

⁴⁶ Cohen, S., Bush, E., Zhang, X., Gillett, N., Bonsal, B., Derksen, C., Flato, G., Greenan, B., & Watson, E. (2019). Synthesis of Findings for Canada's Regions. In E. Bush and D.S. Lemmen (Eds.), *Canada's Changing Climate Report* (p. 424-443). Government of Canada.

⁴⁷ Government of Yukon (2020). *Our Clean Future A Yukon Strategy for Climate Change, Energy and a Green Economy*. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/env/env-our-clean-future.pdf>

Remote working arrangements have become normalized for many professions in the wake of the COVID-19 pandemic, leading to greater flexibility for some workers. In Canada, most public sector employees have had the opportunity to work remotely since the start of the pandemic, with some organizations considering making such arrangements a long-term option for its employees.⁴⁸ Flexible work arrangements are increasingly being adopted across sectors throughout Canada.

In 2021, the Government of Yukon launched its remote work policy allowing people to work remotely from anywhere in the territory.⁴⁹ This initiative could provide an opportunity in terms of the human resources needed across sectors in the territory, particularly helping with recruitment and addressing skills gaps. Part of the policy's intention is to provide access to more Government of Yukon jobs to Yukoners residing outside of Whitehorse.

However, **the digital divide presents a challenge**. There is a lack of sufficient bandwidth in remote communities across Canada and this is an even more pressing problem in the North.⁵⁰ Findings suggest that many Yukon households do not have sufficient bandwidth to support fully remote working arrangements. See Section 3.2.5 for more detail about connectivity in the territory.

2.5.1 Gig Economy

Along with new technologies came the 'gig economy,' a digital platform-based economy that leverages big data, algorithms, and cloud computing to transform how markets traditionally work.⁵¹ This term has evolved to now encompass any non-standard work arrangement, where independent contractors are hired for temporary employment.⁵²

The growing gig economy, which includes digital companies such as Uber and Airbnb, has introduced changes to service provision across sectors. In the tourism and hospitality sector, for instance, Airbnb's global coverage upends traditional hotel arrangements. Airbnb now provides over one million rooms in about 34,000 cities, without the company itself owning properties

⁴⁸ KPMG (2020). Workforce. The Rise of the Remote Workforce. Retrieved from: <https://home.kpmg/ca/en/home/insights/2020/12/workforce.html>

⁴⁹ Crawford L. (2021). Yukon Government Launches Remote Work Policy. The Toronto Star. Retrieved from: <https://www.thestar.com/news/canada/2021/11/12/yukon-government-launches-remote-work-policy.html>

⁵⁰ Wavrock, D., Schellenberg, G. & Schimmele, C. (2021, November 9). Internet-Use Typology of Canadians: Online Activities and Digital Skills. *Statistics Canada*. Retrieved from: <https://www150.statcan.gc.ca/n1/pub/11f0019m/11f0019m2021008-eng.htm>

⁵¹ Kenney, M. & Zysman, J. (2016). The Rise of the Platform Economy. *Issues in Science and Technology*, 32(3), 61-69.

⁵² Russel, T. (2022). The Gig Economy in Canada: Emerging Issues and the Future of Work. Matthew Dinsdale. Retrieved from: <https://iuslaboris.com/insights/the-gig-economy-in-canada-emerging-issues-and-the-future-of-work/>

around the world.⁵³ The Bank of Canada estimates that **30% of Canada's working population is part of the gig economy** workforce, thus making significant contributions to the economy.⁵⁴

Independent work, flexible working arrangements, and project-based work is likely to continue to grow, defying traditional work arrangements (i.e., in-person, full time). However, gig economy workers often face unstable income and have no paid sick or annual leave. Individual workers must make their own provisions for risks such as injuries and health-related issues that would otherwise be supported in 'regular' employment with a company.⁵⁵ In practice, however, many gig workers do not have the financial means to cover a temporary loss of income.⁵⁶

In the Yukon, the gig economy is emerging with platforms such as Airbnb and Etsy⁵⁷ and certain open questions remain. Due to the small size of the Yukon, it is unclear whether the territory's market is big enough to support the numerous digital-based gig platforms (e.g., Uber, Lyft, TaskRabbit, etc.).⁵⁸ Future research could also shed light on the extent to which gig work, especially through remote arrangements, provides incentives for individuals to remain in the territory and to boost the local economy.⁵⁹

⁵³ The World Tourism Organization (UNWTO) (n.d.). The Future of Work and Skills Development in Tourism. Retrieved from: <https://www.e-unwto.org/doi/pdf/10.18111/9789284421213>

⁵⁴ Kostyshyna O., and Luu C. (2019). The Size and Characteristics of Informal ("Gig") Work in Canada, Bank of Canada. Retrieved from: <https://www.bankofcanada.ca/wp-content/uploads/2019/02/san2019-6.pdf>

⁵⁵ Asia-Pacific Economic Cooperation (APEC) Secretariat. (2017). Developing the Tourism Workforce of the Future in the APEC Region. Asia-Pacific Economic Cooperation (APEC) Secretariat Tourism Working Group. Retrieved from: https://www.apec.org/docs/default-source/Publications/2017/4/Developing-the-Tourism-Workforce-of-the-Future-in-the-APEC-Region/217_TWG_Developing-the-Tourism-Workforce-Report.pdf

⁵⁶ Ziegler, E., McCallum, K. E., Porter, K., and Noshiravani, R. (2020). Understanding the Nature and Experience of Gig Work in October. Future Skills Centre, pp.14-15.

⁵⁷ Halliday, K. (2017, February 10). How to Make It in the Yukon's Gig Economy. *Yukon News*. Retrieved from: <https://www.yukon-news.com/letters-opinions/how-to-make-it-in-the-yukons-gig-economy/>

⁵⁸ Halliday, K. (2018, January 4). Bright Apps of the Big City. *Yukon News*. Retrieved from: <https://www.yukon-news.com/opinion/bright-apps-of-the-big-city/>

⁵⁹ Halliday, K. (2017, September 14). Would You Like to Teach English to a Chinese Youngster from your Kitchen? *Yukon News*. Retrieved from: <https://www.yukon-news.com/opinion/would-you-like-to-teach-english-to-a-chinese-youngster-from-your-kitchen/>

3. Resilience in the Yukon

This section considers the **strengths and weaknesses of the territory in relation to the future of work and skills**. It begins with a snapshot of the Yukon context in terms of its economy, employment, and immigration. A consideration of foundational challenges follows, drawing primarily from interview and focus group findings. The section concludes with a summary of the Yukon's unique 'value' proposition (or strengths) according to research participants, supplemented by a review of existing research.

3.1 Yukon Context

The Yukon has shown impressive resilience in the face of the COVID-19 pandemic. Despite the economic turndown elsewhere in Canada and the world, the territory experienced strong economic growth. In 2021, the Yukon's economy expanded by 7.5%, and it is projected to grow at a rate of 7.6% in 2022.⁶⁰ Additionally, the Yukon has the fastest growing population of any province or territory in Canada.⁶¹

3.1.1 Economic Profile

According to the 2021 census, the Yukon's population grew by 12.1% between 2016 and 2021.⁶² The real GDP of the territory was \$2.7bn in 2020, and the economy grew by 7.5% in 2021. Growth of 7.6% is projected for 2022.⁶³

The Yukon economy is primarily dependent on mining, the public sector, and construction. These industries are the largest employers in the territory. Figure 3 shows the Yukon economy by percentage of GDP by industry.

Three main factors contribute to the Yukon's unique economic profile:⁶⁴

1. **A mixed economy:** The population relies upon wages from labour as well as traditional Indigenous subsistence hunting and fishing, involving an emphasis group co-operation and sharing.⁶⁵

⁶⁰ The Conference Board of Canada (2022). Resource Development Fuels Growth: Yukon's Outlook to 2045. March 24, 2022. Retrieved from: <https://www.conferenceboard.ca/e-library/abstract.aspx?did=11548>

⁶¹ Yukon Bureau of Statistics (2022). Census 2021: Populations and Dwellings. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/ybs/fin-population-and-dwellings-census-2021.pdf>

⁶² Yukon Bureau of Statistics (2022). Census 2021: Populations and Dwellings. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/ybs/fin-population-and-dwellings-census-2021.pdf>

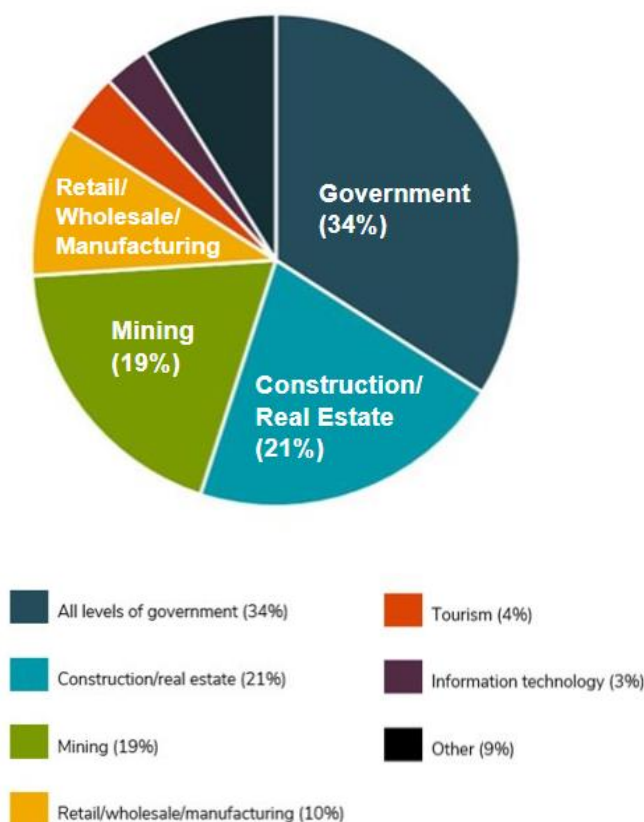
⁶³ Conference Board of Canada (2022). Resource Development Fuels Growth: Yukon's Outlook to 2045. Retrieved from: <https://www.conferenceboard.ca/e-library/abstract.aspx?did=11548>

⁶⁴ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), pp. 225-226. doi:10.22584/nr49.2020.016

⁶⁵ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), p. 225. doi:10.22584/nr49.2020.016

2. **Large-scale natural resource exploitation:** Since the Gold Rush in the late 1800s, the territory has been known for mining. The Faro mine was once the world's largest open pit lead-zinc mine.⁶⁶
3. **The importance of the state:** The economy is highly dependent on government, with one in three people working for some level of government in the Yukon. Although there is a strong presence of social economy organizations, most exist to meet the needs that are unmet by Yukon governments, with comparatively few organizations involved in trade, finance, or insurance, for example.⁶⁷

Figure 3: Economy by Percentage GDP per Industry



Source: Government of Yukon, [New strategy for climate change, energy & green economy](#), 2019

⁶⁶ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), p. 225. doi:10.22584/nr49.2020.016

⁶⁷ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), pp. 225-226. doi:10.22584/nr49.2020.016

Although the territory records the second lowest unemployment rate in Canada (5.5% in 2021),⁶⁸ there is a **big demand for workers in the Yukon**. Labour supply and housing remain key barriers to addressing this demand. In addition, the number of young people coming through the education system is currently insufficient to meet labour demand.⁶⁹ Moreover, employment is not distributed evenly across the territory. The **employment rate is considerably higher in Whitehorse** than in other communities – approximately 70% in Whitehorse compared to 60% other communities in 2021.⁷⁰

3.1.2 Indigenous Workers

Indigenous people represent 23.3% of the total Yukon population, with a majority residing in rural communities.⁷¹ In rural areas outside of Whitehorse, statistics show that 21% of the population is Indigenous, whereas only 14% of the Whitehorse population is Indigenous.⁷² On average, the Indigenous population is less active in the labour force than non-Indigenous Yukoners. As indicated in Figure 4, Indigenous people represented 16.8% of the Yukon labour force compared to 83% of non-Indigenous people, and Indigenous people had an employment rate of 54% (unemployment rate – 12.5%) compared to 71.3% for non-Indigenous people (unemployment rate – 4.1%).⁷³

In addition to the labour force gaps, gaps in education exist. In the Yukon, 51% of Indigenous people aged 25 to 64 possess postsecondary credentials such as a certificate, diploma, or degree from a trade school, college, or university, compared to 71% of non-Indigenous people.⁷⁴ These gaps in educational attainment present a challenge to fostering equity and employability amid workplace change.⁷⁵

⁶⁸ Statistics Canada (2016).

⁶⁹ IRCC. (2020). Economic Profile Series: Whitehorse, Yukon Spring 2020. Retrieved from: https://publications.gc.ca/collections/collection_2021/ircc/Ci4-193/Ci4-193-18-2019-eng.pdf

⁷⁰ Statistics Canada. (2016).

⁷¹ Yukon Bureau of Statistics. (2016). Aboriginal Peoples Census 2016. Government of Yukon. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/ybs/fin-aboriginal-peoples-census-2016.pdf>

⁷² Yukon Bureau of Statistics. (2018). Yukon Statistical Review 2018. Government of Yukon. Retrieved from: http://www.eco.gov.yk.ca/stats/pdf/employment_2017.pdf

⁷³ Yukon Bureau of Statistics. (2021). Yukon Employment Annual Review 2021. Retrieved from: <fin-yukon-employment-annual-review-2021.pdf>

⁷⁴ Statistics Canada. (2016).

⁷⁵ Skudra, M., Avgerinos, A., & McCallum, K. E. (2020). Mapping the Landscape: Indigenous Skills Training and Jobs in Canada. Public Policy Forum.

Figure 4. Indigenous Labour Force Characteristics, Yukon, 2020 to 2021

	Total		Indigenous		Non-Indigenous	
	2020	2021	2020	2021	2020	2021
Labour force	22,900	23,700	3,900	4,000	19,000	19,700
Employment	21,700	22,400	3,300	3,400	18,300	18,900
Full-time employment	18,200	18,800	2,700	2,800	15,600	16,000
Part-time employment	3,500	3,600	700	700	2,800	2,900
Unemployment	1,200	1,300	600	500	600	800
Not in labour force	9,400	9,100	2,700	2,300	6,600	6,700
Unemployment rate	5.2%	5.5%	15.4%	12.5%	3.2%	4.1%
Participation rate	70.9%	72.3%	58.2%	63.5%	74.2%	74.3%
Employment rate	67.2%	68.3%	49.3%	54.0%	71.5%	71.3%

Source: Statistics Canada, Custom data table.

Note: Indigenous is self-identified. It is a descriptor used by Statistics Canada, which includes First Nation, Métis, and Inuit. Source: Custom data table from Statistics Canada, retrieved from Yukon Bureau of Statistics, [Yukon Employment Annual Review 2021](#), p. 10.

3.1.3 Yukon Immigration

The Yukon's immigrant population has grown in recent years, increasing from 9.9% of the total population in 2006 to 12.6% in 2016. Interprovincial and international migration both continue to contribute to Yukon's population growth.⁷⁶

Immigrants to the Yukon are predominantly Canadian citizens who work or study in the territory. Data from the 2016 census reported that close to two thirds (61.1%) of immigrants to the Yukon were Canadian citizens and 12.6% were foreign-born.⁷⁷ Of the newcomers to the territory, 80% (110 individuals) were workers or students.⁷⁸

To relocate to the Yukon, immigrants may participate in the **Yukon Nominee Program**. This program allows prospective immigrants with targeted skills and experience to receive a Yukon Provincial Nomination Certificate, after which they can apply for Canadian permanent residence. The program operates several streams, including Critical Impact Worker, Skilled Worker, and Express Entry. A new stream, the **Yukon Community Program** (previously called the Yukon Community Pilot program) launched in 2020, contributes to growing a viable labour market

⁷⁶ CBC News. (2021, February 3). Yukon's Population up 21% from a Decade Ago, and Still Growing Steadily. Retrieved from: <https://www.cbc.ca/news/canada/north/yukon-population-increase-2021-1.5898284>

⁷⁷ Yukon Bureau of Statistics. (2016). Immigration and Ethnocultural Diversity. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/ybs/fin-immigration-ethnocultural-diversity-census-2016.pdf>

⁷⁸ Hatherly, D. (2022, February 11). Yukon Sees Highest Population Growth in Country: 2021 Census. Yukon News. Retrieved from: <https://www.yukon-news.com/news/yukon-sees-highest-population-growth-in-country-2021-census/>

outside Whitehorse with workers who intend to settle permanently in an eligible community. There is a short case study on this program in Section 3.2.4.

Yukon's previous immigration strategy expired in 2019. The Government of Yukon held a public consultation in late 2020 to inform the development of an **updated immigration strategy for the next ten years**.

In the community engagement, stakeholders confirmed the need for immigration to address labour gaps,

especially in the service and tourism sectors. Additionally, they described the need to focus on attracting highly skilled and educated immigrants, and to prioritize the settlement and integration of newcomers. This new strategy is due to be published in 2022.

"There's a struggle regarding skilled trades. There's an academic component people have to gain first. If people have dropped out of high school, they don't have the academic credentials and mostly aren't interested in going back to do that upgrade. This is a barrier, but I understand why the prerequisite is there."

Interview participant, Mayo

3.2 Identified Challenges

Research findings highlighted specific challenges affecting the Yukon's readiness for the future of work based upon data from interviews and focus groups. Participants frequently described these issues as 'foundational'. In some instances, informants said that they could not speak to 'future skills' until these underlying challenges were addressed.

3.2.1 Labour Shortages

A lack of workers in the Yukon was **one of the most prominent themes** across interview and focus groups. In communities outside of Whitehorse, participants commonly noted that there are "more jobs than people." Although the labour shortage appears to be affecting all sectors, there were some particularly strong themes. These themes are described below.

A **lack of technical professionals** is a particular point of concern. Across locations and sectors, participants noted that there remains a strong need for **skilled trades** – from apprentices to journeymen and Red Seal certified professionals, and from electricians to plumbers and carpenters. There is also a **lack of engineers** of different disciplines.

A couple of research participants involved in training in rural Yukon communities described the academic entry requirements for skilled trades apprenticeships as being a barrier to enrolment – particularly math credentials – although one noted that they appreciate why the prerequisites are needed.

"The lack of skills in technical theatre is the biggest issue. It's a crisis... the sector still doesn't know if there will be another shut down and that's an issue for everybody. Enrolment in technical theatre and arts programming training has plummeted since the pandemic because people are wary of the risk of future shutdowns. We cannot create more signature cultural events when there are so few technicians."

Interview participant, Yukon arts and culture sector

There is a need for more **creative industry technical specialists** such as lighting and sound technicians to work on film and theatre productions. The lack of technical professionals has become a crisis since the onset of pandemic. The pandemic caused many people to be laid off and move on to other careers. Additionally, there is **little to no pool of local casual workers**, for example to assist with productions like theatre shows, events, or festivals.

Workers with **managerial skills** appear to be needed across sectors and communities. There is an especially strong need for **project managers and coordinators within the creative industries**. However, participants noted that people often are not aware of this career pathway nor is a strong demand for these skills. Some creative industry participants stated that it would be easy for a freelance self-employed project manager or coordinator to gain consistent income – either working in Whitehorse or remotely for clients in different communities – if they had a network of contacts across the Yukon’s creative industries.

3.2.2 Housing

Almost all participants across interviews and focus groups described a lack of housing as a **foundational challenge**. The challenge relates not only to finding *affordable* housing – whether to buy or rent – but to finding *any* housing. According to participants, the problem is not only limited to Whitehorse, but common in communities across the territory. A common scenario is that workers based outside of the territory may accept a position in the Yukon but find that they are unable to find accommodation.

Reasons suggested for the housing crisis include the high cost of land, supply chain issues relating to construction materials, and the high cost of labour due to a lack of skilled tradespeople. Moreover, the pandemic has caused many of these costs to rise.⁷⁹

⁷⁹ Crawford, L. (2021, November 25). Yukon Housing Affordability Still Waning: CMHC Report. *Yukon News*. Retrieved from: <https://www.yukon-news.com/news/yukon-housing-affordability-still-waning-cmhc-report/>

To address this crisis, the Yukon Housing Corporation aims to provide support with finding homes, accessing information about social housing, and acquiring funding to build new homes or repair existing ones.⁸⁰ For instance, the Rapid Housing Initiative (RHI) is a federally funded housing program that seeks to provide affordable housing for vulnerable populations. As of January 2022, RHI had created 149 new units in the Yukon.⁸¹ Other initiatives include the Safe at Home Society that works to prevent homelessness⁸² and various housing development projects across the territory funded through a combination of federal, territorial, municipal, and self-government agreements.⁸³

Case Study: Non-Profit Housing Development in Dawson

The Klondike Development Organization (KDO) is a not-for-profit society based out of the Dawson City. The organization is a collaborative partnership of Chief Isaac Incorporated (the development corporation of the Tr'ondëk Hwëch'in), City of Dawson, Dawson City Arts Society, Dawson City Chamber of Commerce, and Klondike Visitors Association. Through numerous projects, KDO supports local economic development and addresses community challenges. In recent years, it has developed an innovative model to tackle the housing shortage.¹

KDO identified a gap in the system, where neither the private sector nor the government was providing affordable rental units in Dawson. For private developers, the long-term return on investment coupled with high construction costs make affordable builds unattractive. The organization wondered if housing could be provided affordably based on a non-profit model, with KDO acting as the developer and manager of affordable housing units. Supported by a grant for 60% of capital costs from Yukon Housing Corporation and a commercial mortgage guaranteed by the City of Dawson, KDO was able to make this vision a reality.²

Via this model, KDO has successfully built two 8-unit rental apartment complexes in Dawson City, contributing 16 new affordable housing spaces to the community. The initiative has been sparked interest elsewhere, and another 8-unit complex is being developed by Klondike Visitors Association, a KDO partner.³ Currently at a small scale, this non-profit housing model could be expanded elsewhere in the territory.

Sources

1. About KDO. (n.d.). Klondike Development Organization. Retrieved from <https://www.klondikedevlopment.com/>
2. Housing Project Background. (n.d.). Klondike Development Organization. Retrieved from <https://www.klondikedevlopment.com/housing-project/>
3. Interview with Klondike Development Organization (Nordicity, Interviewer, May 2022).

⁸⁰ Government of Yukon. (n.d.). Yukon Housing Corporation. Retrieved from: <https://yukon.ca/en/yukon-housing-corporation>

⁸¹ Canadian Mortgage and Housing Corporation. (n.d.). Rapid Housing Initiative (RHI). Retrieved from: <https://www.cmhc-schl.gc.ca/en/professionals/project-funding-and-mortgage-financing/funding-programs/all-funding-programs/rapid-housing>

⁸² Safe at Home Society. (n.d.). The Safe at Home Society. Retrieved from: <https://safeathomeyukon.ca/>

⁸³ For example, Waddell, S. (2022, May 8). Ta'an Kwäch'än Council Announces Housing Projects. *Yukon News*. Retrieved from: <https://www.yukon-news.com/news/taan-kwchn-council-announces-housing-projects/>

3.2.3 Competing with the Public Sector for Workers

A consistent theme in interviews was that **employers are finding it hard to compete with Yukon governments for workers**. The high levels of public sector employment and associated higher salaries make it very hard for private and non-profit employers to retain talent. This puts a strain on other sectors. Even if they hire workers from outside the territory, new recruits may quickly leave for a government role.

Some participants suggested that government workers' higher salaries were contributing to the cost of living, especially in relation to housing. The higher cost of living then means that more people look to move into higher-paying governments roles to meet the costs, exacerbating the problem.

The issue is complex. One participant noted that the territorial government plays a bigger role in providing everyday services than a provincial government would, so it needs a wide range of 'in house' expertise. Given the small and sparse population in the Yukon, there is not the same ecosystem of private companies providing services that you would typically see somewhere with a denser population. Hence, the government must fill those gaps and must provide a competitive offer to attract workers with the skills. Additionally, some participants noted that the Government of Yukon is also a major client and source of business for private Yukon companies. The Government of Yukon also provides a range of supports for entrepreneurs.

"Private companies have to recruit outside the territory and then pay moving expenses to get people here. Sometimes they stay, but often they will end up going to government roles anyway once they arrive or will end up leaving the Yukon. There isn't much happening at governmental levels to directly address this."

Interview participant,
Whitehorse

"It's a 'knotty problem' – the government needs access to qualified resources, hence offering competitive wages which will be high enough to attract people from outside Yukon. But this makes it very attractive for Yukon people to want to work for the government as well."

Interview participant,
Whitehorse

3.2.4 Retention within the Yukon

Like the Northwest Territories and Nunavut, the Yukon has an established practice of using interjurisdictional employees to meet regional labour and skills shortages.⁸⁴ Interjurisdictional

⁸⁴ Between 2008 and 2017, 10-15% of workers in Yukon resided outside the territory. However, Yukon also supplies labour elsewhere - on average, 8% of Yukon residents were employed elsewhere between 2008-2017. Source: The Conference Board of Canada. (2021). The Borders of Labour: A Profile of the Interjurisdictional Workforce in the Northwest Territories, Yukon, and Nunavut. A Primer. Published September 3, 2021. Retrieved from: https://www.conferenceboard.ca/temp/4f26d1c8-88b5-483e-9c5b-e82216d6cf2a/11256_primer_profile-of-interjurisdictional-workforce-NW-Yukon-Nunavut.pdf

workers are especially used within the resource development sectors (e.g., fly in, fly out employees working in mining camps).⁸⁵ Immigration, be it for non-permanent or permanent work, also plays an important role in the territory. However, retention is not only about convincing workers from other places to stay but making it possible for Yukoners to remain in the territory with quality options for education, training, and work.

Retaining Yukoners

According to informants, many Yukoners end up having to leave for school or work, even if they would prefer to stay. **Some types of training or education are not available** anywhere in the territory, meaning that students and workers must move elsewhere.

Unsupportive HR policies are another reason that Yukoners may leave. Several participants in small communities noted that **healthcare, education, and social workers** often end up leaving their positions after only a few years. This issue appears to be affecting communities outside of Whitehorse more than the territorial capital. One of the key reasons cited was a lack of support from employers, for example, a nurse constantly on call and denied time off to see visiting family members. Another issue cited is how people train as healthcare aides but end up working on call without a regular schedule or enough hours to qualify for work benefits.

A frequent theme in interviews was the need to retain youth – within communities, as well as within the territory. See Section 3.2.7 for more regarding opportunities for Yukon youth.

Retaining Newcomers

The ability to retain and integrate newcomers will be critical to sustaining the trend towards population growth and ensuring that newcomers contribute to the territory's economic

"Many healthcare aides are on-call, don't have a regular schedule, and come and go between whatever care home and private homes. The employer keeps them under the threshold number of hours so that they don't have to offer them real benefits. It's ridiculous how many people do the training, start working in the field, last about 6-months to a year, then quit out of frustration."

Interview participant,
Dawson

"To attract and retain people, we need to ensure that public infrastructure is in place and make Yukon an attractive place to live. That means offering reasonable, affordable housing, schools that are recognized as offering a competitive education, and quality of life where people have access to the goods and services they want."

Interview participant,
Whitehorse

⁸⁵ The Conference Board of Canada. (2021). The Borders of Labour: A Profile of the Interjurisdictional Workforce in the Northwest Territories, Yukon, and Nunavut. A primer. Published September 3, 2021. Retrieved from: https://www.conferenceboard.ca/temp/4f26d1c8-88b5-483e-9c5b-e82216d6cf2a/11256_primer_profile-of-interjurisdictional-workforce-NW-Yukon-Nunavut.pdf

development.⁸⁶ Although many immigrants remain in the Yukon, retention can be a difficult and many leave. Participants described how it is common for workers to move to the Yukon to gain 'northern experience,' often attracted by a promotion or pay increase.

For workers from outside of Canada, the [Yukon Nominee Program](#) can offer a pathway to immigrate to Canada. However, many newcomers – whether Canadian or foreign nationals – stay only a few years before leaving. Multiple reasons may contribute to the retention issue. Reasons described ranged from workers not being able to adapt to the weather, months of darkness or sunlight, a lack of community integration, and insufficient support from employers leading to burnout.

Case Study: Yukon Community Pilot Immigration Strategy

The Yukon Community Pilot program is an innovative immigration strategy designed to address the unique needs of the Yukon's economy. Through this initiative, launched in 2020, foreign workers can apply for a two-year work permit and be employed by up to three different employers in one of the six participating communities – Whitehorse, Watson Lake, Dawson City, Haines Junction, Carmacks, and Carcross.

This pilot program differs from the current immigration strategy – Yukon Nominee Program – as it allows employees and employers much more flexibility in terms of their hours and tasks. Rather than be tied to one specific employer, recruits are connected to a broader community and engaged in more than one role at a given time. These changes allow for more employers to qualify for the recruitment of foreign workers. In doing so, the pilot program aims to address labour shortages and immigrant retention issues in the territory.

Sources

Government of Canada. (n.d.). Yukon Community Pilot. Retrieved from: <https://www.canada.ca/en/immigration-refugees-citizenship/services/immigrate-canada/provincial-nominees/yukon-community-pilot.html>
Waddell, S. (2019, September 27). Pilot Project Aims to Address Gaps in Yukon's Nominee Program. Yukon News. Retrieved from: <https://www.yukon-news.com/news/pilot-project-aims-to-address-gaps-in-yukons-nominee-program/>

3.2.5 Connectivity

Connectivity continues to be a major challenge when it comes to work and skills development. Connectivity relates not only to internet connections, but also to connections between people, communities, and sectors.

Digital Connectivity

In the Yukon, a **lack of reliable digital infrastructure** is preventing some of the population from engaging in an evolving digital economy. Statistics Canada finds that broadband services across the northern territories fall far short of the national benchmark (50 Mbps download and

⁸⁶ Immigration, Refugees and Citizenship Canada. (2020). Immigration Matters - Economic Profile Series: Whitehorse, Yukon. Retrieved from: <https://www.canada.ca/content/dam/ircc/migration/ircc/english/pdf/immigration-matters/economicprofile-whitehorse-yukon-en-final.pdf>

10 Mbps upload speeds and unlimited data transfer), whereas densely populated areas are almost all well served.⁸⁷ Participants noted how limited phone and internet connections (including limited bandwidth) pose challenges for both organizations and individuals, especially outside of Whitehorse.

To address this gap, the region's sole telecom and internet provider Northwestel is in the process of constructing a **fibre optic line to connect northern communities**. The project is funded by national and territorial governments as well as Northwestel itself. This technological infrastructure will ensure reliability in the event of a service disruption and will improve internet and cellphone networks.⁸⁸ As of May 2022, the estimated completion date is set for 2023, by which time almost all Yukon communities will have fibre optic installed. The Old Crow community will not have fibre optic but will benefit from improved satellite services.⁸⁹ A further important development took place in May 2022: Yukon First Nations Telco LP purchased \$10 million worth of fibre optic infrastructure that it will lease back to Northwestel over a 20-year period.⁹⁰ Research participants expressed that progress has been made towards implementing digital infrastructure across the territory, but affordability remains a central issue. As Northwestel is the only telecom provider, there is no competition in the territory.

Personal Connectivity: Networks and Contacts

Several participants noted how important networks are – both for work now and for the future of work. **Networks of personal connections help people to hear and learn about work and training opportunities available** to them. However, the research suggests that there are siloes within sectors and between sectors in the territory, limiting knowledge sharing.

With a lack of information about potential work options available, people often do not realize that they could carve a niche for themselves working in a highly specialized role. One example of an in-demand specialized role is lighting technicians in the cultural and creative industries. The research findings indicate that there are currently only a few highly skilled technicians within the territory and almost no pipeline to replace these workers when they retire. Without local skilled workers like this, workers would need to be flown in – which is not always feasible nor beneficial for the territory.

⁸⁷ Wavrock, D., Schellenberg, G. & Schimmele, C. (2021, November 9). Internet-use Typology of Canadians: Online Activities and Digital Skills. *Statistics Canada*. Retrieved from: <https://www150.statcan.gc.ca/n1/pub/11f0019m/11f0019m2021008-eng.htm>

⁸⁸ Government of Yukon. (2021). Construction of Dempster Fibre Line underway. *Government of Yukon*. Retrieved from: <https://yukon.ca/en/news/construction-dempster-fibre-line-underway>

⁸⁹ CBC News. (2022). 13 Yukon First Nation Development Corporations Buy Fibre Optic Infrastructure from NorthwesTel. *CBC News Online*. Retrieved from: <https://www.cbc.ca/news/canada/north/13-yukon-first-nation-development-corporations-fibre-optic-infrastructure-northwestel-1.6443179>

⁹⁰ CBC News. (2022). 13 Yukon First Nation Development Corporations Buy Fibre Optic Infrastructure from NorthwesTel. *CBC News Online*. Retrieved from: <https://www.cbc.ca/news/canada/north/13-yukon-first-nation-development-corporations-fibre-optic-infrastructure-northwestel-1.6443179>

Case Study: Tax Link Canada Network

Tax Link Canada is a network of business specialists based out of Haines Junction. The network brings together professionals from across Western Canada with specializations in personal tax, corporate tax, small business, and bookkeeping, among other fields.¹ Tax Link Canada provides a platform to match each member's specific skills with client needs. In doing so, professionals can obtain strong competencies in core specialisms and clients receive high quality services.

This network model has many benefits that could be applied beyond the sphere of taxes. For example, in Yukon's creative industries, there is a need for project managers, administrative professionals, and casual staff for events or productions.² Small businesses often cannot employ someone full time, but one person could find plenty of work across several businesses if they aware of the opportunities.

Networks such as Tax Link allow for greater collaboration between professionals and easier identification of work opportunities, as members share client bases according to their expertise. They can also support the development of specialists. This approach could potentially help remove that pressure that Yukoners can feel to generalize in order to meet a diverse range of needs.³ Generalists run the risk of being overburdened, and may be unable to dedicate time to acquiring specific technical skills.⁴ Network members, meanwhile, can have more opportunity to focus on work that is a better fit for their core skills. Additionally, having a shared 'banner' or brand can share the burden of activities such as marketing.

Sources:

1. Welcome to Tax Link Canada. (n.d.). Tax Link Canada. Retrieved from <https://taxlinkcanada.com/>
2. Interviews with business leaders in Yukon's creative industries (Nordicity, interviewer, April 2022).
3. Summary observation based on Yukon Future Skills research (Nordicity, June 2022).
4. Interview with Tax Link Canada. (Nordicity, Interviewer, May 2022).

There are two major issues in recruiting for skilled specialized roles. First, Yukoners may not even know that certain types of jobs exist. Second, they may view self-employed, specialist roles as 'gig' work and not as pathways to a stable, secure income. However, if a lighting technician were to have a **strong personal network across industries**, they could hear of additional productions available to them (e.g., in theatre, film, or events). Participants suggested that if specialists like these were aware of the opportunities available, they could find enough work to consistently support themselves.

3.2.6 Community Health and Trauma

Many interview participants – especially outside of Whitehorse – described how communities are struggling with personal trauma. Tragically, in 2021, 24 people died from opioid-related deaths in the Yukon.⁹¹ This is a high figure considering the small population; the number

⁹¹ CBC News. (2022) Grief Still Fresh in Yukon 2 Months after Spike in Opioid Deaths. Anna Desmarais, CBC News, March 24, 2022. Retrieved from: <https://www.cbc.ca/news/canada/north/yukon-overdoses-frontline-workers-1.6394760#>

includes five people in Mayo, out of a population of 457.⁹² Naturally, tragic issues like this create barriers to pursuing training and education. As one participant described it, "You can't ignore the social issues – many people are not healthy enough to work, let alone to pursue higher education."

The legacy of residential schools and intergenerational trauma within First Nation communities was another theme frequently arising in interviews. There were six residential schools and residences in the Yukon;⁹³ the first opened in 1911 (Choooutla, or Carcross Residential School) and the last closed in 1985 (Yukon Hall).⁹⁴ The relatively recent closures mean that numerous people alive today attended these schools or have family members who did. In line with Canadian federal government policy, Indigenous children were forcibly removed from their families and made to attend residential schools in Canada, often taken a great distance from their homes.⁹⁵ The aim of residential schools was forced assimilation and cultural genocide.⁹⁶ The abuse, trauma, and even death, that Indigenous children within the Yukon and across Canada faced at these schools is

"Here, 'wellness' means critical social needs... addressing things relating to the impact of residential schools like alcoholism, addiction. Part of it is trauma from abuse, but also because kids were taken out of community and missed out on experiencing parenting skills, particularly within a cultural context. Loss of identity and culture has a huge impact whatever culture you're from. It will take a long time to unwind, and it impacts the future."

Interview participant, Teslin

⁹² CBC News. (2021). 'You Become Numb to it': Residents of Mayo, Yukon, Want State of Emergency Declared Over Substance Use Deaths. Anna Desmarais, CBC News, Nov 23, 2021. Retrieved from: <https://www.cbc.ca/news/canada/north/mayo-state-of-emergency-substance-abuse-deaths-1.6253305>

⁹³ The residential schools and residences were Choooutla (Carcross Residential School), Whitehorse Baptist, Shingle Point, Coudert Hall and Yukon Hall in Whitehorse, and St. Paul's School in Dawson City. Source: Truth and Reconciliation Commission of Canada. (2015). Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada, p. 361. Retrieved from: https://ehprnh2mwo3.exactdn.com/wp-content/uploads/2021/01/Executive_Summary_English_Web.pdf

⁹⁴ Government of Yukon. (2011). Yukon Residential Schools Bibliography. Yukon Tourism and Culture and Yukon Archives. Updated July 16, 2020. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/tc/tc-yukon-residential-schools-bibliography.pdf>

⁹⁵ National Centre for Truth and Reconciliation. (n. d.). Residential School History. University of Manitoba. Retrieved from: <https://nctr.ca/education/teaching-resources/residential-school-history/>

⁹⁶ Truth and Reconciliation Commission of Canada. (2015). Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada, p. 1. Retrieved from: https://ehprnh2mwo3.exactdn.com/wp-content/uploads/2021/01/Executive_Summary_English_Web.pdf

documented in the Truth and Reconciliation Commission's final report⁹⁷ and through many testimonies from survivors and their families.⁹⁸

Numerous research studies demonstrate that a high percentage of individuals with substance abuse issues have histories of traumatic experiences.⁹⁹ Several participants, particularly outside of Whitehorse, described such issues in their local communities, where some people are not able to train or work due to mental health problems, and/or addictions such as drug use and alcoholism. They stressed that **wellness is a key foundational piece that is currently overlooked** by most programming and training offered across the territory. By wellness, participants consistently referred not only to physical health but to **holistic wellness**, including mental and social health. One participant emphasized the urgency, stating, "Things need to change quickly to save lives."

Interviewees conveyed that **wellness, in the critical sense of the word, needs to be taken seriously when approaching the topic of future skills**. One participant stressed that communities have been talking about the issue for years, but they feel they are not being listened to by policymakers and training providers in the Yukon. The result is frustration and consultation fatigue.

"They [decisionmakers in Whitehorse] are not truly listening. They're making assumptions with certain glasses on... All communities outside of Whitehorse agree that their communities need wellness. Until that foundational piece is stable doesn't matter how many other benefits are on offer."

Interview participant,
Dawson

3.2.7 Disparity in Educational Outcomes

It is evident that critical educational attainment gaps are limiting Yukoners' employment potential, **particularly for rural and Indigenous youth**. This disparity is reflected in statistics. The graduation rate in rural Yukon communities is 69% compared with 79% in urban locations.

⁹⁷ Truth and Reconciliation Commission of Canada. (2015). Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada. Retrieved from: https://ehprnh2mwo3.exactdn.com/wp-content/uploads/2021/01/Executive_Summary_English_Web.pdf

⁹⁸ For example, Spice, A. (2018). Residential Schools. Indigenous People's Atlas of Canada. Retrieved from: <https://indigenouseoplesatlasofcanada.ca/article/residential-schools/>

⁹⁹ Example studies include:

Herron, J.L., Venner, K.L. (2022). A Systematic Review of Trauma and Substance Use in American Indian and Alaska Native Individuals: Incorporating Cultural Considerations. *Racial and Ethnic Health Disparities*. <https://doi.org/10.1007/s40615-022-01250-5>

Konkolj Thege, B., Horwood, L., Slater, L. et al. (2017). Relationship between Interpersonal Trauma Exposure and Addictive Behaviors: A Systematic Review. *BMC Psychiatry*. 17, 164. <https://doi.org/10.1186/s12888-017-1323-1>

Khoury, L., Tang, Y. L., Bradley, B., Cubells, J. F., & Ressler, K. J. (2010). Substance Use, Childhood Traumatic Experience, and Posttraumatic Stress Disorder in an Urban Civilian Population. *Depression and Anxiety*. 27(12), pp. 1077–1086. <https://doi.org/10.1002/da.20751>

Only 55% for Yukon First Nations and 63% for other Indigenous students graduate, compared to 86% of non-First Nations or Indigenous students.¹⁰⁰

One participant underscored how proof of inequitable outcomes for rural, First Nations students has been documented in the 2019 Auditor General of Canada's report on Kindergarten through K-12 education in Yukon. The report concluded that, "the Department of Education did not do enough to assess or address the long-standing gaps in student outcomes" or to "to deliver education programs that were inclusive and that fully reflected Yukon First Nations culture and languages."¹⁰¹ Furthermore, parents may not be especially supportive of their children's education, having had negative experiences themselves. Additionally, the Report found that "the Northern K-12 system as a whole is failing to delivery students ready for post-secondary education" as it is "allowing students to graduate while still lacking basic literacy, numeracy, social, and other academic skills."¹⁰²

"The modern-day educational system is not always seen as a good thing, especially given residential schools."

Interview participant, Teslin

Individuals who have not graduated high school may be faced with significant barriers to continuing their education through training and/or higher education. Research participants based in rural communities consistently noted that even people who have graduated high school can find their credentials are not adequate for pursuing further training or education. To

¹⁰⁰ Six-year graduation rate for all students who entered grade 8 for the first time in 2015-2016, i.e., examining if they graduated with a standard or adult dogwood certificate within a six-year period. Source: Government of Yukon (2022). Yukon Wide Department of Education Student Data Report, School Year 2020-21. Department of Education, Government of Yukon, March 9, 2022, p. 37. Retrieved from: https://yukon.ca/sites/yukon.ca/files/yukon_wide_report_2020-21_v.1.5_final.pdf

¹⁰¹ 2019 June Report of the Auditor General of Canada to the Yukon Legislative Assembly. Kindergarten Through Grade 12 Education in Yukon—Department of Education. Retrieved from: https://www.oag-bvg.gc.ca/internet/English/yuk_201906_e_43400.html

¹⁰² Task Force on Northern Post-Secondary Education. (2022). A Shared Responsibility: Northern Voices, Northern Solutions. Report of the Task Force on Northern Post-Secondary Education. Retrieved from: <https://northernpse.ca/sites/default/files/2022-03/final%20report%20laid%20out.pdf>

qualify, people often need to upgrade their high school credentials, but this can pose a significant barrier.

Case Study: Yukon First Nations Education Directorate (YFNED)

Launched in 2020 and steered by the Chiefs Committee on Education (CCOE), the Yukon First Nations Education Directorate (YFNED) provides an Indigenous-led approach to education in the Yukon. YFNED programs are designed by and for First Nations peoples, and they aim to address the root causes that contribute to uneven outcomes between Indigenous and non-Indigenous communities. Their four programs are: First Nations Education Advocates, Nutrition Program, Early Years, and a Mobile Therapeutic Unit. For each offering, YFNED representatives are integrated directly into communities, allowing students and their families to access the support they need. Since its establishment, YFNED programs have attracted participation from 120 families and received much positive feedback.

One illustrative example of how YFNED operates is through their campuses. YFNED noticed that it was difficult to engage youth through the school system. To address this, they sought to engage youth in a different space using culturally integrated methods. YFNED built three outdoor campuses, among them a horse farm, where youth, elders, teachers, and communities could come together. On the campuses, Indigenous youth can learn through practices that are embedded in their cultures. Registration for summer programs on the campuses is proving popular – registration is full for 2022!

Sources

About Us. (n.d.) Yukon First Nation Education Directorate. Retrieved from <https://www.yfned.ca/about-us>
MacIntyre, C. (2022, Apr. 25). Early Childhood Learning Program with a First Nations Approach Proving Popular in Yukon. CBC News.

Early Years Education

Several educator participants stressed the importance of early years education (i.e., for children under five or six years old). Some described how early years education is undervalued, despite being foundational for every other type of learning – including skills training in adult life – and how the experiences in a child's early years are a strong predictor of developmental outcomes more broadly. Priority skills for young children to learn, according to interviewees, include **collaboration, cooperation, empathy, and understanding others**. These can be considered the foundational skills for other types of learning, such as problem-solving and critical thinking.

"Looking to the future, all large, global issues are going to need creative, complex and collaborative thinkers. Early years are where we support that, providing the foundations."

Interview participant,
Whitehorse

However, early years education greatly varies in quality across the territory. Often, daycares are seen as somewhere for children to go during the day, rather than as an important place for them to learn critical, lifelong skills. Some participants described a **need for higher credentials for early years educators**. Up to 50% of early years education centres or daycare staff may not have a professional certificate and may only have completed two courses in working with

children.¹⁰³ While participants agreed that it is important not to add unnecessary barriers to recruitment, they described how the lack of emphasis on professional certification has created a knowledge gap. They suggested, longer-term, that there should be a shift towards education in early years education first, and higher credentials available – e.g., undergraduate degrees. They also highlighted a need to make more young people aware of the profession as a fulfilling career path.

Since the pandemic, there have been some changes deemed highly positive by the Yukon early years educators interviewed. For example, there is greater recognition of the value of early years education. Additionally, the recent transfer of early years education from the Department of Health and Social Services to the Department of Education was seen as a valuable development.

Case Study: Inquiry-Based Learning – Meet an Astronaut

At Early Learning At the Gardens in Whitehorse, early years educators have adopted an inquiry-based teaching model. Led by children's curiosity, the emergent curriculum model contrasts with a top-down teaching approach. The educator carefully observes the children's interests and facilitates experiential learning responding to them. The child and educator become co-investigators, asking and exploring questions together.¹

When reading a book about space, educators at Early Learning At The Gardens asked children how they wanted their difficult questions answered. The young children's response? They wanted to ask an astronaut! Together, children and educators compiled a list of questions and sent them to Canadian astronaut Chris Hadfield. He hosted an online meeting for the pre-school children and kids and answered their many questions about space.

This approach encourages children to be curious and creative. It shifts away from a prescriptive learning model in which educators must stick with a predefined schedule and allows for changes in the daily routine.² Through this educational model, children are inspired to be active participants in directing their learning. The aim is to help them to engage confidently with their surroundings, building social and emotional intelligence.

Sources

1. Interview with Early Learning At The Gardens. (Nordicity, Interviewer, April 2022).
2. Interview with early learning instructor, Whitehorse (Nordicity, Interviewer, December 2021).

Opportunities for Youth

The research highlighted that additional efforts are needed to remove barriers to education and skills training for Yukon youth. While the definition of 'youth' used in the Yukon varies, participants often referred to youth as being aged 12-24 years. Due to time constraints, this

¹⁰³ The Yukon follows the three federal levels of qualification – Level 1 in early years education (which requires no certificate), Level 2 (certificate) and Level 3 (diploma). Until recently, to address labour shortages, a wide range of credentials could be deemed the equivalent of Level 3, even if they did not involve working with children (i.e., nursing credentials). Therefore, some early years educators in the territory may not have any formal training in working with young children.

research did not engage youth participants directly. As such, research with youth is a key consideration for the future, as described in Section 5.4 (Future Research Directions).

Participants working with youth highlighted the **importance of including youth voices** and learning what skills they want to learn. While they did not claim to be able to speak for Yukon youth, they described various barriers affecting youth, such as **mental health** – particularly in light of the pandemic – **low confidence, and insufficient support from employers**. As described by one participant, “youth need employers who will take a chance on them.” The cost of living is also a barrier; young people may not see local employers (aside from governments) as paying enough to support a living wage. Additionally, a **key practical barrier is transportation** for youth, as they “are always relying on parents or older folks to drive them.” One participant suggested the need for free postsecondary education for Yukon youth, to overcome the financial barrier.

Existing recent research with Yukon youth has expanded on these issues. Recent youth research led by the Brookfield Institute and Yukon University’s Innovation and Entrepreneurship department¹⁰⁴ highlighted that youth participants saw post-secondary education as a vital step, but one that potentially involves high financial costs and the need to leave the territory. They suggested that youth need more information about future career paths available to them, more mentorship on “passion-based” career development options and more accessible options – e.g., that they can travel to. They described a need for more support for youth facing mental health and drug and alcohol consumption issues, and for inter-generational trauma. Additionally, participants described experiences of gender inequity and discrimination in schools and training institutions, and not seeing themselves reflected in the workforce.¹⁰⁵ As such, participants described feeling frustrated, under-confident, and anxious. While participants were aware of various skills growth,

“I would flip the question and ask, what do young people want to do for work? How do we provide the jobs they are interested in doing? That’s one of the key issues – the jobs that are available are not the jobs that people want. So how do we offer jobs that are interesting and fulfilling?”

Interview participant,
Dawson City

“Free education would be the biggest single thing in terms of impact. So many youth up here are not getting post-secondary education as it’s so expensive... offer free education and you get ‘in house’ Yukoners trained and ready for a job.”

Interview participant,
Whitehorse

¹⁰⁴ This research was also funded by Ryerson University’s Future Skills Centre. Report: Yukon Employment in 2030 Action Labs: Regional Summary – Yukon, Brookfield Institute and Yukon University. <https://brookfieldinstitute.ca/wp-content/uploads/Yukon-Regional-Summary.pdf>

¹⁰⁵ Yukon Employment in 2030 Action Labs: Regional Summary – Yukon, Brookfield Institute and Yukon University, pp. 10-11. <https://brookfieldinstitute.ca/wp-content/uploads/Yukon-Regional-Summary.pdf>

jobs, and volunteer options available in the territory, they **highlighted a lack of entry-level career opportunities** for youth.¹⁰⁶

2021 research by-youth-for-youth by Community Building Youth Futures Yukon (CBYF Yukon) made four key recommendations responding to issues such as these. The recommendations were: to actively involve youth in either employment opportunities or meaningful consultation; offer a frontline program to help youth access affordable housing and guidance for financial hardship; establish a paid co-op program in the high school system to offer work experience and career exposure; and provide consistent and affordable counselling and mental health support.¹⁰⁷

3.3 The Yukon's Unique 'Value' Propositions

The research highlighted specific strengths of the Yukon. These strengths are what make the Yukon unique and could be leveraged to help attract and retain skilled workers, design skill-training programs, and promote overall community development. Moreover, the points outlined here serve as a useful guide to uncovering niche assets across the territory's industries. The research identified the following 'value' propositions:

Indigenous Leadership and Governance

Building on the Umbrella Final Agreement, the Yukon continues to be recognized as **a leader in Indigenous governance and self-determination** both within the territory and outside of it.¹⁰⁸ While there remains a long journey ahead and many improvements needed, stakeholders noted that the autonomy and self-determination for many of the First Nations were further ahead than other jurisdictions. This leadership includes locally owned and operated projects and initiatives in areas such as renewable energy and tourism. As a recognition of this leadership, YukonU's Indigenous Governance program is attracting students from all over the world.

"Indigenous self-determination is breaking down that old colonial gateway and thinking differently... that provides a lot of opportunity for innovation."

Interview participant, Haines Junction

¹⁰⁶ Yukon Employment in 2030 Action Labs: Regional Summary – Yukon, Brookfield Institute and Yukon University, p. 11. <https://brookfieldinstitute.ca/wp-content/uploads/Yukon-Regional-Summary.pdf>

¹⁰⁷ CBYF Yukon (2021). Community Building Youth Futures: Research Conducted by Youth for Youth. Vanessa Oliverio, Samreen Ahmad, Yebin Park, Zarah Sydney, and Kamryn Williamson, and Robin Mennell, February 21, Whitehorse.

¹⁰⁸ Gignac, J. (2021). Curing the 'Colonial Hangover': How Yukon First Nations Became Trailblazers of Indigenous Governance. Retrieved from: <https://thenarwhal.ca/yukon-first-nations-indigenous-rights-explainer/>

Niche Scale for Piloting Innovations

Innovation is not limited to inventing new technologies. **Innovation encompasses the entire chain of development**, from novel ideas to the implementation of improved products and services.¹⁰⁹ There is a need to identify where the community most excels in the innovation **process**, to maximize innovation's impact on economic growth (and to ensure positive spillover effects).¹¹⁰ In the case of the Yukon, **innovation often takes the form of adapting existing technologies for Northern or other remote communities**. Products such as the Dawson City sewage system, originally designed for other environments, have been re-engineered for the unique geographic and social contexts of Yukon localities. Such product improvement has relevance on a territorial and a national level, and it also has the **potential to be applied to remote communities beyond Canada's borders**.

An additional area to explore is positioning the **Yukon as a testing ground for innovative research and technologies**. As noted by focus group participants from the Yukon's public sector, the territory could establish more partnerships with external institutions, such as universities or research parks, and foster greater cross-sectoral collaboration. Interesting possibilities exist in the clean energy sector, which will be subsequently discussed in detail (Section 4.5). One interviewee reinforced this point of view and credited the Yukon's small population size: "[The small population size] does present challenges, but the Yukon is also a good size for beta testing of different technology and different ways of doing things."

Social Entrepreneurship

Many noted that **Yukoners are natural problem solvers and creative people**. In addition, it was widely cited that there is an entrepreneurial mindset in the territory. While entrepreneurs exist everywhere, there is an emerging cluster of enterprises in the Yukon that are using **creative solutions and business models to solve community challenges**. Often called 'social enterprises',¹¹¹ these organizations frequently leverage community strengths or solving local problems while still operating a revenue generating (and sometime profitable) business. These enterprises are common in the Yukon, whereas entrepreneurship in other jurisdictions is more often associated with motives like profit, scale, and technology.

Nimble and Collaborative

Many stakeholders noted that the Yukon's small population size makes certain aspects of life more 'nimble' and easier to get things done. While some participants noted that processes can

¹⁰⁹ Breznitz, D. (2021). The New Globalization of Innovation. In *Innovation in Real Places: Strategies for Prosperity in an Unforgiving World* (pp. 11-30). Oxford University Press.

¹¹⁰ Breznitz, D. (2021). Introduction. In *Innovation in Real Places: Strategies for Prosperity in an Unforgiving World* (p. 3). Oxford University Press.

¹¹¹ The government of Canada broadly defines social enterprises as: a revenue-generating organization whose objective is to have a social impact.

Source: Innovation, Science and Economic Development Canada. (2019). Start, Build, and Grow a Social Enterprise: Start Your Social Enterprise. *Government of Canada*. Retrieved from: https://www.ic.gc.ca/eic/site/053.nsf/eng/h_00006.html

be slow due to the multiple layers of government, more commonly it was noted that it was **easy to connect with key stakeholders or decisionmakers** because “everyone knows each other.” Similarly, while silos do exist (as they do everywhere), most participants noted that people within the Yukon generally start by seeking collaboration and areas to work together, rather than starting from a place of competition.

Balanced Lifestyle with Proximity to Nature

It was widely noted that one of the best things about the Yukon is the **balanced, healthy lifestyle** that the territory can offer. Many reported that there is a slower pace of life, with more emphasis placed on mental health and work-life balance than in other jurisdictions. Access to pristine nature that is adequately protected (e.g., through land agreements¹¹²) and the availability of a range of outdoor activities were cited as key aspects. This lifestyle can be leveraged as a **key driver for attracting and retaining a talented workforce**, especially as work-life balance is increasingly prioritized by many.

Rich Cultural Heritage

The Yukon has a rich multicultural heritage. It is **distinctive and memorable, home to diverse cultural identities**. These include 14 First Nations – each with a unique identity – and eight Indigenous language groups, as well as newcomers from around the world. Furthermore, the territory’s Gold Rush history is world-famous. This deep and layered cultural heritage is fundamentally intertwined with the land and its breathtaking natural surroundings.

The Yukon’s heritage is **not only about the past but also about the present**. The unique and evolving culture is widely shared at signature events like [Adäka Cultural Festival](#), [Available Light Film Festival](#), and [Yukon Sourdough Rendezvous Festival](#) (to name only a few). In addition to signature events, the Yukon’s [cultural and historic sites](#) provide strong support to **cultural tourism** in the territory, particularly Indigenous tourism.¹¹³ Attending museums and visiting heritage destinations are among the top three activities for visitors to the Yukon.¹¹⁴

There is **potential for long-term growth** in tourism and in the creative and cultural industries. While the pandemic and uncertainty created by COVID-19 had a profound impact, these sectors have shown strong resilience. This resilience has included pivoting to new ways of doing things, from building stronger engagement with local communities to exploring the significant potential of digital.

¹¹² CBC News. (2019, August 22). After 15 Years, Final Yukon Agreement Signed to Protect the Peel Watershed. CBC News Online. Retrieved from: <https://www.cbc.ca/news/canada/north/government-first-nations-agreement-peel-plan-1.5255446>

¹¹³ Government of Yukon. (n.d.). Find Out about Yukon First Nations. Retrieved from: <https://yukon.ca/en/find-out-about-yukon-first-nations>

¹¹⁴ Yukon Bureau of Statistics. (2018). Visitor Exit Survey 2017/18. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/tc/tc-visitor-exit-survey-2017-18.pdf>

4. Sector Deep Dives

4.1 Public Sector

4.1.1 State of the Sector

The public sector is one of the **major employers in the Yukon**. In 2020, 43% of the Yukon workforce was employed by the public sector (including the four levels of government) with the number almost double that of the national average.¹¹⁵ The sector employs slightly more women than men. In December 2021, out of the 10,500 public sector workers, 6,200 of them identified as female (59%) while 4,300 identified as male (40.9%).¹¹⁶

The Government of Yukon was named one of the 'Top Employers for Canadians over 40' (2021) and one of Canada's top 100 employers (2022). The accolades recognize initiatives responsive to employees, such as flexible work from home policies since the onset of the COVID-19 pandemic, as well as other benefits such as tuition subsidies for its employees.¹¹⁷

The Government of Yukon plays a critical role in education and skills development in the territory. The Government has established a Labour Market Framework, a 10-year initiative (2010 to 2020) that identified priorities for its labour market, focusing on four strategies – [comprehensive skills and trades training](#) (CSTTS); [immigration](#); [recruitment and employee retention](#); and [labour market information](#).¹¹⁸ The CSTTS specifically focuses on ensuring training opportunities for Yukoners to enable them adapt to changing skills and knowledge in the labour market, as well as improving learning and employment transitions.¹¹⁹ The initiative provides a basis for skills training and development in the everchanging landscape of work.

Adoption of Technology

¹¹⁵ Yukon Bureau of Statistics. (2021). Fiscal and Economic Outlook • March 2021. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/fin/fin-2021-22-fiscal-and-economic-outlook.pdf>

¹¹⁶ Yukon Bureau of Statistics. (2021). Yukon Employment, December 2021. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/ybs/fin-yukon-employment-december-2021.pdf>

¹¹⁷ Yerema R. and Leung K. (2021) Yukon, Government of, Recognized as one of Canada's Top 100 Employers (2022) and Top Employers for Canadians over 40 (2021). Mediacorp Canada Inc. Retrieved from: <https://reviews.canadastop100.com/top-employer-yukon-government>

¹¹⁸ Government of Yukon. (n.d.). Learn about Labour Market Framework Initiative. Retrieved from: <https://yukon.ca/en/your-government/find-out-what-government-doing/learn-about-labour-market-framework-initiative>

¹¹⁹ Government of Yukon. (2010). The Labour Market Framework for Yukon. Comprehensive Skills and Trades Training Strategy. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/ecdev/edu-lmf-comprehensive-skills-trades-training.pdf>

Technological adoption coupled with a lack of digital skills in the workforce continue to be an issue for the Yukon public sector, as it is worldwide. However, there are **several unique aspects of the northern public service** affecting the adoption of new technologies.¹²⁰

First, the territorial governments each face significant diseconomies of scale, related to the need to deliver a full range of administrative responsibilities to a small and widely dispersed population. The current level and cost of services largely prevent territorial governments from capitalizing on new technologies for public service delivery and administration. Second, efforts to streamline government structures and make governance more efficient have been resisted by Northern residents, who have high expectations about consultation, responsiveness, and local control.¹²¹

First Nations Self-Governance Agreements

First Nations play a critical role relating to governance in the Yukon. There are currently 14 Yukon First Nations and language groups in addition to Indigenous people who form around 25% of the Yukon population.¹²²

The Yukon continues to lead Canada in terms of First Nations Self-Government Agreements (SGA). Of the 14 Yukon First Nations, 11 have concluded SGAs.¹²³ Not only do the SGAs empower First Nations to make and implement laws relating to their citizens and land, but the agreements make available funding towards service and program delivery to their communities.¹²⁴ SGAs have supported the recent establishment of the First Nations School Board that seeks to give more autonomy and discretion to First Nations regarding education in their communities. The SGAs have further implications for the public sector in the Yukon and the future of work in the sector related to cooperation with the Government of Yukon.¹²⁵

¹²⁰ Coates, K., & Poelzer, G. (2014). *The Role of the Public Sector in Northern Governance*. The Conference Board of Canada. Retrieved from: <https://www.schoolofpublicpolicy.sk.ca/documents/research/archived-publications/icngd-publications/icngd-reports/rolepublicsectornortherngov.pdf>

¹²¹ Coates, K., & Poelzer, G. (2014). *The Role of the Public Sector in Northern Governance*. The Conference Board of Canada. Retrieved from: <https://www.schoolofpublicpolicy.sk.ca/documents/research/archived-publications/icngd-publications/icngd-reports/rolepublicsectornortherngov.pdf>

¹²² Government of Yukon. (n.d.). Find Out about Yukon First Nations. Retrieved from: <https://yukon.ca/en/your-government/about-yukon/find-out-about-yukon-first-nations>

¹²³ Policy Options. (n.d.). Indigenous Self-Government in Yukon Holds Lessons for All of Canada. Retrieved from: <https://policyoptions.irpp.org/magazines/june-2021/indigenous-self-government-in-yukon-holds-lessons-for-all-of-canada/>

¹²⁴ Council of Yukon First Nations. (n.d.). Self-Government Agreements. Retrieved from: <https://cyfn.ca/agreements/self-government-agreements/>

¹²⁵ Coates, K., & Poelzer, G. (2014). *The Role of the Public Sector in Northern Governance*. The Conference Board of Canada. Retrieved from: <https://www.schoolofpublicpolicy.sk.ca/documents/research/archived-publications/icngd-publications/icngd-reports/rolepublicsectornortherngov.pdf>

Self-governing communities and development corporations will collectively require thousands of employees if they are to be effective. This will add to government-related employment in the North. The Government of Yukon and the First Nations will therefore need to partner and collaborate on addressing challenges related to labour and skills in the Yukon public sector.¹²⁶

Key Trends and Driving Forces Affecting the Yukon Public Sector

Human Resources Management: There is a trend towards new approaches to managing human resources. This includes agile project management, outsourcing, and data science. The trend is leading to significant changes in the public sector.

Contracting and Outsourcing of Services: The public sector is increasingly outsourcing the provision of certain sectors. The Public Service Alliance of Canada (PSAC) expressed concerns over the trend, due to concerns that it can undermine the role of the public sector in the Yukon. For example, in 2019, there were [criticisms concerned the Government of Yukon's plan to outsource printing services the private sector](#).

Flexible Work Arrangements: Remote work and flexible hours are increasingly being adopted. For instance, the Government of Yukon [launched](#) a work from home [policy](#) during the pandemic and has become open to employing remote workers based outside of Whitehorse.

Aging Workforce: Much of the workforce is retiring. With limited human resources available to replace them, this exacerbates existing labour shortages.

Digitalization, New Skills, and Training Requirements: Digital tools and virtual platforms continue to be adopted in the public sector, implying the need for training to meet the needs of the changing nature of work.

Collaborative Governance Approaches: There has been a shift towards collaborative approaches and co-production. Co-production is regarded as central to the future of public services, requiring re-thinking of the roles and relationships between citizens, communities, elected representatives, and policymakers. Collaborative governance is reportedly needed in the Yukon given the Self Governing First Nations in the territory.

¹²⁶ Coates, K., & Poelzer, G. (2014). *The Role of the Public Sector in Northern Governance*. The Conference Board of Canada. Retrieved from: <https://www.schoolofpublicpolicy.sk.ca/documents/research/archived-publications/icngd-publications/icngd-reports/rolepublicsectornortherngov.pdf>

4.1.2 Opportunities, Strengths, and Challenges

Table 1: SWOT Analysis of the Yukon Public Sector

SWOT ANALYSIS	
OPPORTUNITIES	THREATS
<p>Changing nature of work – e.g., remote working, automation of repetitive tasks, flexible work arrangements</p> <p>AI and automation to streamline efficiency, learning from big data</p> <p>Increased focus on digital services to serve the Yukon’s small, dispersed population – meeting the increased expectation for digital</p> <p>Achieving a representative public sector workforce</p> <p>Partnering more closely with First Nations government to increase equitable outcomes for Indigenous communities in the Yukon</p>	<p>AI implementation and digitization – unique legal, policy, and economic challenges</p> <p>Tight labour market – small population, aging workforce, housing crisis exacerbating labour shortages in the public sector; the Great Resignation</p> <p>Contracting and outsourcing of services are becoming prevalent in the public sector – challenges in how the sector manages services</p> <p>Ever-increasing complexity as public sector responsibilities increase</p> <p>Growth of the public sector – e.g., increase transfer payments which can ‘compete’ with industry</p> <p>Slow response to meeting new skills requirements – e.g., commercial expertise, business development, digital as well as cognitive, emotional, and social skills</p>
STRENGTHS	WEAKNESSES
<p>The public sector is a major employer and economic driver in the Yukon - one of Canada’s top 100 employers (2022)</p> <p>Diverse and talented workforce</p> <p>Increasing recognition of wellbeing, mental health, culturally safe working environments</p> <p>Government of Yukon’s remote work policy (2021) allows people to apply to work remotely for jobs located in the Yukon</p> <p>Leading Canada with First Nations governance agreements developing policy, strategy:</p> <ul style="list-style-type: none"> Unique Breaking Trail Together (2019-2029) representative public service plan Strong focus on organizational development: People Plan, Gov Yukon public service, 2019-23 	<p>Equitable representation across the public sector – e.g., Indigenous staff</p> <p>Slow technological adoption plus lack of digital skills in the workforce – in the Yukon as well as worldwide</p> <p>Hard to achieve economies of scale, and Yukoners’ high expectations on consultation, responsiveness, and local control</p> <p>Internal communications can be challenging</p>

4.1.3 Critical Uncertainties

Labour Force

- Territory-wide **skills shortages** present a critical uncertainty in the public sector. Given the Yukon's aging population, the issue of housing shortages, and difficulties retaining skilled employees – among other concerns – the public sector needs to adapt to a changing labour force. It is uncertain how immediately and effectively the sector can respond to this challenge.

Digitization

- **Digitization and automation** are causing rapid change in the labour market, both within and outside of the public sector. In other places worldwide, this trend is causing displacements in labour (e.g., in roles such as accounting and payroll clerks, data entry and administrative clerks, sales and marketing professionals, human resource specialists and business service managers), but also providing opportunities in terms of emerging roles (e.g., information security analysts, risk management specialists, digital transformations specialists, strategic advisors, and software and applications developers).
 - It is unclear how quickly and easily the territory's public sector can respond to these dynamics. Key questions are whether the Yukon has the necessary **infrastructure to adopt new technologies** (e.g., big data, AI) and how well the public sector is positioned to respond to emerging opportunities in this space. Tight **legal restrictions** regarding data usage present a critical challenge.
- The public sector is experiencing a shift towards **flexible, remote working arrangements** due in part to the Government of Yukon's 2021 remote work policy. It is uncertain how this arrangement will evolve and **where employees will reside** in the future. For instance, more individuals may opt to live in smaller communities outside of the capital region.

Governance Structures

- **Collaborative governance approaches**, for example, between the territorial, federal and Yukon First Nation governments. It is uncertain what co-production related to governance roles will look like in the future, given the complexity and as it requires community development and buy-in.

4.1.4 Future Skills Considerations

Based on the unique strengths and challenges of the Yukon's public sector, the following points could be considered.

Local Skills Development

- A central consideration throughout the research was the need to ensure that the public sector **does not crowd out other industries**. While the public sector is the largest employer in the Yukon, other sectors such as tourism and hospitality, clean energy, and the creative arts among others hold tremendous potential for local skills development in the territory. Thus, not only should the territory consider skills development in the

public sector, but these skills must be transferable and adjustable to technological advancements in all sectors.

- At the high school level, further **education on civics and Indigenous governance** could help position students for public sector careers.
- Yukon University could play a role in local skills development. For instance, **co-op programs between the university and local businesses and organizations** could better prepare students for public and private sector employment. The university could also design courses or provide services to **prepare students for public sector employment**. This could be achieved through skills training programs or career services.
- A further approach to skills development could be implemented through **rotational work programs**. Rotating between communities in the Yukon allows employees to gain a diverse skillset while moving temporarily to remote communities. It would also build a deeper understanding of what life and work is like in locations with small populations, leading to more responsive policy design.
- Public sector hiring practices currently focus on essential competencies. However, **unconventional credentials**, which are often present across the Yukon's population, may go unrecognized. Research suggests that this gap could be addressed by recognizing micro-credentials and placing greater emphasis on qualities necessary for long-term retention (e.g., understanding of Yukon culture, individual values, etc.).

Partnerships for Knowledge Sharing

- The Government of Yukon could promote **partnerships with research institutions and universities**. Due to the unique environment in the Yukon, opportunities to innovate exist. For instance, **existing technology could be adapted** to address the remote geography and Northern climate. Research participants further noted that it could serve as a site to **pilot innovative technology**, especially in the clean energy sector. Such innovations are applicable not only in Northern regions, but in remote communities at large.
- The Yukon's **multilevel Indigenous governance scheme** presents a further opportunity for knowledge sharing, as the territory's experiences with Indigenous governance and treaty negotiations could serve as a model for other jurisdictions. There may be opportunities to share experiences with **provincial and territorial governments**.

Improve Digital Infrastructure

- The need to **improve digital infrastructure** is a recurring theme. Across the Yukon, this is necessary from both baseline and equity points of view. There is a pressing need to connect remote communities so that all can have **equal access to digital services**.
- A key consideration is to adapt existing technology and infrastructure to the local context. Products and policies developed outside of the Yukon, for instance elsewhere in Canada, will need to be **adapted to serve local needs**.

4.2 Mining

4.2.1 State of the Sector

In the Yukon, the natural resources sector includes mining, quarrying, and oil and gas extraction. The sector is a key contributor to the Yukon economy with **an average of \$253 million in total mineral production per year**, accounting for a 10.3% of the province's GDP on average between 2008 and 2019.¹²⁷ The sector **contributed 14.5% of the Yukon's GDP in 2020**.¹²⁸

The Yukon's mining sector includes minerals such as copper, gold, lead, silver, and zinc, among others. Additionally, the territory together with the Northwest Territories and Nunavut, has large crude oil and natural gas deposits that are untapped, although there are some active explorations. In 2019, the territories together produced 7,500 barrels of conventional oil and 4.7 million cubic feet of natural gas per day indicating the potential of exploration in the territory.¹²⁹

Despite challenges with the ongoing pandemic and its impacts on multiple sectors, **the mining sector has seen growth and is forecasted to continue growing**. For instance, the Yukon Government is expected to receive increases in mining royalties beginning in 2022/23 (from the Eagle Gold Mine).¹³⁰ In addition to the recent commissioning of projects such as the Alexco Resource Corp's Keno Project in 2020, increased mineral production and higher prices, the Yukon's mining sector continues to experience growth.¹³¹

The Yukon Mineral Development Strategy panel released its final report in April 2021. The strategy establishes six strategic priorities, including the following which could directly impact employment:¹³²

- Creating substantive and sustained Yukon socio-economic returns from resource development that benefit Yukon First Nations, local communities, and all Yukoners today and in the future; and

¹²⁷ Yukon MDS Independent Panel. (2021). Yukon Mineral Development Strategy and Recommendations. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/emr/emr-yukon-mineral-development-strategy-recommendations.pdf>

¹²⁸ Yukon Bureau of Statistics. (2020). GDP by Industry (at Basic Prices) 2020. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/ybs/fin-gross-domestic-product-industry-2020.pdf>

¹²⁹ Canadian Association of Petroleum Producers (CAPP). (n.d.). Industry Across Canada. Retrieved from: <https://www.capp.ca/economy/industry-across-canada/>

¹³⁰ The Government of Yukon. (2021). Fiscal and Economic Outlook • March 2021. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/fin/fin-2021-22-fiscal-and-economic-outlook.pdf>

¹³¹ The Government of Yukon. (2021). Fiscal and Economic Outlook • March 2021. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/fin/fin-2021-22-fiscal-and-economic-outlook.pdf>

¹³² Yukon Mineral Development Strategy Panel (MDS Panel). (2021). Yukon Mineral Development Strategy and Recommendations. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/emr/emr-yukon-mineral-development-strategy-recommendations.pdf>

- Providing support for leading edge workforce development and public awareness initiatives.

Labour Participation

The mining industry is also **an important source of employment**. Adjusted for size, Whitehorse has more than twice as many people employed in mining and quarrying compared to the national economy.¹³³ There are currently three producing mines in the Yukon. The territory's economic outlook is predicted to see strong growth in 2022, driven by Eagle Gold, Minto, Keno Hill Silver District, and Placer Mines.¹³⁴ While the sector does generate employment, there were concerns over **labour shortages** given the gap between availability of jobs and local workers entering the workforce.¹³⁵ Other sectors in the Yukon economy, including construction, transportation, and hospitality, benefit from spin-off job creation from the mining sector.

In 2020, the Yukon's mining sector employed 964 people.¹³⁷ Although the ongoing pandemic had impacted jobs, **the mining sector was forecasted to add approximately 400 new jobs for Yukoners** by end of 2020 (these jobs were expected to be in the Eagle Gold and Minto mines).¹³⁸ The Yukon also received significant investments towards the development of Victoria Gold Corporation's Eagle Gold project whose first gold was extracted in 2019.¹³⁹ **The sector is further expected to more than double its output.** In addition to oil and gas extraction, some of the minerals mined by the sector include gold, copper, and silver.

Similar to the national industry, **women's participation in the Yukon's mining sector is rather limited**. According to an MiHR survey, employers indicated having between 5% to 50%

¹³³ Immigration, Refugees and Citizenship Canada. (2019). Economic Profile Series: Whitehorse, Yukon. Retrieved from: <https://lipdata.ca/wp-content/uploads/sites/28/2020/02/Whitehorse-Economic-Profile-2019.pdf>

¹³⁴ Conference Board of Canada. (2021). Territorial Outlook. Retrieved from: <https://www.conferenceboard.ca/focus-areas/canadian-economics/territorial-outlook>

¹³⁵ Rowles, S.M. (2020). *Technological Transitions in the Far North: Yukon People's Difficult but Transformative Relationship with Technology*. [Doctoral dissertation, University of Saskatchewan]. <https://harvest.usask.ca/handle/10388/13211>

¹³⁶ Blais M. D. (2014). Yukon Labour Market Supply and Migration Study. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/edu-yukon-labour-market-supply-and-migration-study-april-10-2014.pdf>

¹³⁷ Yukon Bureau of Statistics. (2020). Yukon Labour Demand Survey 2020. Retrieved from: https://yukon.ca/sites/yukon.ca/files/ybs/2020_labour_demand_survey_report_0.pdf

¹³⁸ The Conference Board of Canada. (2020). Shielded From the Worst: Territorial Snapshot. Yukon. Retrieved from: <https://www.conferenceboard.ca/focus-areas/canadian-economics/2020/territorial-snapshot/yukon>

¹³⁹ Marshall B. (2020). Facts & Figures 2020. The State of Canada's Mining Industry. *The Mining Association of Canada*. Retrieved from: https://mining.ca/wp-content/uploads/dlm_uploads/2021/04/FF-2020-EN-Web.pdf

women employees in their workforce, mostly in human resources, clerical, and administrative roles.¹⁴⁰ However, **exploration is seeing a growing female workforce** particularly in smaller companies and for seasonal workers.¹⁴¹

Indigenous people make significant contribution to the mining sector in the Yukon. Out of all the Indigenous people employed in the territory, 17.6% of them work in the Yukon's good-producing sector which includes the mining, oil, and gas industry (in addition to forestry and fishing) compared to 16.8% for non-Indigenous people.¹⁴² Regarding signed mining and exploration agreements in Canada with Indigenous communities, the Yukon accounted for 5.8% of those agreements (i.e., 25 agreements) in 2019.¹⁴³

Infrastructure Investment

Canada's northern regions – including the Yukon – hold the future of the country's mining industry. However, the northern regions present **challenges including inadequate infrastructure, extreme temperatures, and sparse populations**, making the cost of operating mines in the region quite high.¹⁴⁴ Thus, mining companies seeking to work in the northern regions of the country often require significant investments in their infrastructure needs (i.e., transportation including roads, ports and railways, power generation, accommodation, and airstrips).

Recognizing the above challenges, in Canada's Budget for 2019, the government renewed the Trade and Transportation Corridors Initiative's (TTCI) northern allocation of \$400 million, a further \$1.7 billion commitment over 13 years towards **improving digital connectivity** and an additional \$700 million towards the growth of Arctic communities over 10 years.¹⁴⁵ In addition

¹⁴⁰ Mining Industry Human Resources Council (MiHR). (2012). Yukon Hiring Requirements and Available Talent Forecasts: Mineral Exploration, Mining, and Support Services. Retrieved from: https://mihr.ca/wp-content/uploads/2020/03/Yukon_RIS_FINAL_005_web.pdf

¹⁴¹ Mining Industry Human Resources Council (MiHR). (2012). Yukon Hiring Requirements and Available Talent Forecasts: Mineral Exploration, Mining, and Support Services. Retrieved from: https://mihr.ca/wp-content/uploads/2020/03/Yukon_RIS_FINAL_005_web.pdf

¹⁴² Yukon Bureau of Statistics. (2020). Yukon Employment Annual Review 2020. Retrieved from: https://yukon.ca/sites/yukon.ca/files/ybs/ybs-forms/employment_2020.pdf

¹⁴³ Government of Canada. (n.d.). Minerals and the Economy. Retrieved from: <https://www.nrcan.gc.ca/our-natural-resources/minerals-mining/minerals-metals-facts/minerals-and-the-economy/20529#green>

¹⁴⁴ Marshall B. (2020). Facts & Figures 2020. The State of Canada's Mining Industry. *The Mining Association of Canada*. Retrieved from: https://mining.ca/wp-content/uploads/dlm_uploads/2021/04/FF-2020-EN-Web.pdf

¹⁴⁵ Marshall B. (2020). Facts & Figures 2020. The State of Canada's Mining Industry. *The Mining Association of Canada*. Retrieved from: https://mining.ca/wp-content/uploads/dlm_uploads/2021/04/FF-2020-EN-Web.pdf

to the above incentives, specifically in the Yukon, the Yukon Resource Gateway provides \$360 million towards projects in the province.¹⁴⁶

Key Trends and Driving Forces Affecting the Yukon Mining Sector

Aging Workforce: Much of the mining workforce is retiring. With limited human resources available to replace them, this is exacerbating existing **labour shortages** across sectors including the mining sector in the Yukon.

Technology, Digitalization, and Automation: These trends present both risks and opportunities in the mining sector. The Mining Industry Human Resources Council (2020) in Canada found that most of the mining workforce is employed in occupations with higher vulnerability in terms of technological disruption and worker adaptability. While automation will displace certain roles in the industry, the reduction in jobs will make operations in the Yukon more viable given the limited availability of labour and fewer resources that will be needed for a smaller workforce.

New Skills and Training: Skills development is needed to successfully implement and adopt technological and digitization trends in the sector. However, the Yukon territory lacks enough workers with the needed skills for companies to successfully implement new technologies.

Sustainable Mining: Sustainability has become a major part of operations on several industries including the mining sector. For example, Canada's **Green Mining Innovation Initiative**, led by Natural Resources Canada in collaboration with provincial governments and other industry stakeholders, seeks to advance the use of green technology in the sector that will improve the sector's environmental performance through energy efficiency, water management, minimizing waste among other initiatives.

Growing Representation of Women: The sector has always been male dominated. However, exploration is seeing a **growing female workforce** particularly in smaller companies and in the case of seasonal workers. This is set to continue in the future, with several initiatives in place to promote women's participation.

¹⁴⁶ Marshall B. (2020). Facts & Figures 2020. The State of Canada's Mining Industry. *The Mining Association of Canada*. Retrieved from: https://mining.ca/wp-content/uploads/dlm_uploads/2021/04/FF-2020-EN-Web.pdf

4.2.2 Opportunities, Strengths and Challenges

Table 2: SWOT Analysis of the Yukon Mining Sector

SWOT ANALYSIS	
OPPORTUNITIES	THREATS
<p>Spin-off job creation – e.g., in other sectors including construction, transportation and hospitality</p> <p>Digitization and automation to streamline efficiency of work in the sector</p> <p>The Yukon Mineral Development Strategy panel released its final report in April 2021; The strategy establishes strategic priorities directly impact employment in the sector</p> <p>The Government of Yukon and mining companies as well as academic institutions are collaborating on workforce readiness programs and migration initiatives which will continue to play a key role in filling the labour and skills gap</p> <p>A shift towards technical and knowledge-based work can be leveraged to improve efficiency in the industry</p>	<p>Labour shortages – there is a gap between available jobs and workers entering the workforce, exacerbated by the aging workforce</p> <p>New and emerging technological changes are a threat, considering the current need for further skills development to meet these new skills requirements</p> <p>Negative environmental impacts from former mining sites</p> <p>Increased competition from national and multi-national mining firms</p> <p>Existing firms are headquartered outside of the territory, meaning that they tend to serve the interests of external shareholders</p>
STRENGTHS	WEAKNESSES
<p>Key economic contributor – 14% of Yukon GDP in 2020</p> <p>A major source of employment in the Yukon – adjusted for size, Whitehorse has more than twice as many people employed in mining and quarrying compared to the national economy</p> <p>Forecasted to see growth in output – the territory's economic outlook is predicted to see strong growth in 2022, driven by Eagle Gold, Minto, Keno Hill Silver District and Placer Mines</p> <p>Investments in the sector – the Yukon received significant investments towards the Victoria Gold Corporation's Eagle Gold project plus investments towards improving digital connectivity</p> <p>Indigenous people make significant contribution to the mining sector in the Yukon; Out of all the Indigenous people employed in the territory, 17.6% of them work in the good –</p>	<p>Inadequate infrastructure – housing, transportation including roads, ports and railways, power generation, and airstrip all need investment</p> <p>Inadequate digital infrastructure, making the cost of operating mines in the region quite high</p> <p>Extreme temperatures and sparse population also present challenges in the region in terms of accessing labour</p> <p>The territory is experiencing skills deficiency that is required to address technological changes in the industry</p> <p>Lack of robust curriculum in STEM field that could prepare students for a career in the mining industry, especially in remote communities</p> <p>Lengthy bureaucratic processes for mining companies to acquire permits</p>

SWOT ANALYSIS

producing sector which includes the mining, oil, and gas industry

Yukon Environmental and Socio-Economic Assessment Act (YESAA) provides a framework for the democratic inclusion of the Yukon people and fosters collaboration between industry, government, and First Nations communities

4.2.3 Critical Uncertainties

Developments within the mining sector present critical uncertainties:

Infrastructure and Technology

- It is unclear when the Yukon's mining sector will have the financial and human capital to adopt automated technologies. Moreover, the net outcome of increased automation remains unknown. On the one hand, technology could benefit society by filling labour shortages, improving efficiency, and improving health and safety of workers. On the other hand, it will likely eliminate low-skilled positions, leaving individuals unemployed.¹⁴⁷
- The impacts of technology on First Nations' cultural practices and traditional economies also remains uncertain. For instance, what will the environmental, social, and economic impacts be?¹⁴⁸
- Adapting to technological change will require digital infrastructure, reskilling, and upskilling. However, it is uncertain how immediately this infrastructure and training programs will be in place.

Labour Force

- The type of employment in the mining sector is changing. For instance, mining companies are outsourcing skills and services to contractors and services providers particularly in areas of recruitment and retrenchment that previously was carried out in-house.
- It is uncertain how labour shortages are going to be addressed in the future as all sectors are fighting for the same limited human resources and there remains an overreliance on fly-in/fly-out skilled workers.

¹⁴⁷ Rowles, S.M. (2020). *Technological Transitions in the Far North: Yukon People's Difficult but Transformative Relationship with Technology*. [Doctoral dissertation, University of Saskatchewan], pp. 199-200. Retrieved from: <https://harvest.usask.ca/handle/10388/13211>

¹⁴⁸ Rowles, S.M. (2020). *Technological Transitions in the Far North: Yukon People's Difficult but Transformative Relationship with Technology*. [Doctoral dissertation, University of Saskatchewan], p. 190. Retrieved from: <https://harvest.usask.ca/handle/10388/13211>

- A key challenge for the industry is to determine the skills requirements for the future workforce. Thus, the existing mining workforce must be educated through innovative training programs and retraining/reskilling tools.

4.2.1 Future Skills Considerations

In order to best adapt to changes of the mining industry, the following points could be considered.

Industry-Education Partnerships

- There is a need to equip youth with skills to advance in the mining industry. Specifically, **STEM curriculum** developed with input from the mining sector at both the **secondary and post-secondary levels** could address this gap. This need is especially apparent in rural communities.¹⁴⁹
- **Yukon University (YukonU) and the Centre for Northern Innovation in Mining (CNIM)** could both play key roles in developing programs. For instance, YukonU does not currently offer an underground mining operation course, and this presents a skills gap in the territory's mining sector. CNIM could partner with major mining firms to expose its students to innovative technologies not currently present in local mining operations.¹⁵⁰
- Another specific area to consider is the growing need for workers in reclamation (including writing up reclamation plans), ESG (Environmental, Social and Governance), mine planners and engineers. **Apprenticeships** in these fields and others would enable companies to train and retain employees, while addressing specific labour and skill shortages (some companies are doing this for journeymen with Red Seal).

Automation and Innovation

- Technology will continue to play a key role in the sector (in exploration, environmental sustainability), therefore there is a need for skills training to meet an increased use of innovative technologies.
- There is a **need for Yukon firms to experiment with automation** and understand how it will impact the mining sector. Partnerships with major mining companies outside of the Yukon where new technology has already been deployed would allow local firms to gain insight into how automation will affect their operations.
- **Enhanced digital, housing, and transportation infrastructure** is needed in the territory.

¹⁴⁹ Rowles, S.M. (2020). *Technological Transitions in the Far North: Yukon People's Difficult but Transformative Relationship with Technology*. [Doctoral dissertation, University of Saskatchewan], pp. 296-298. Retrieved from: <https://harvest.usask.ca/handle/10388/13211>

¹⁵⁰ Rowles, S.M. (2020). *Technological Transitions in the Far North: Yukon People's Difficult but Transformative Relationship with Technology*. [Doctoral dissertation, University of Saskatchewan], p. 299. Retrieved from: <https://harvest.usask.ca/handle/10388/13211>

- **Reliable and affordable energy sources** are also critical and could help the mining industry transition to cleaner energy practices (e.g., electric trucks).¹⁵¹

Inclusive Policies

- There is a need to **focus on data collection** on activities in the sector to inform policies and programs. Additionally, a territory-wide innovation strategy could help direct innovation towards opportunities that are adapted to the Northern environment and society.¹⁵²
- Already, the YESAA is increasing the participation of First Nations in mining sector operations and improving mining practices overall.¹⁵³ Further legislation and the development of land use plans will play key roles that will dictate Yukon's mining future.

¹⁵¹ Rowles, S.M. (2020). *Technological Transitions in the Far North: Yukon People's Difficult but Transformative Relationship with Technology*. [Doctoral dissertation, University of Saskatchewan], p. 191. Retrieved from: <https://harvest.usask.ca/handle/10388/13211>

¹⁵² Rowles, S.M. (2020). *Technological Transitions in the Far North: Yukon People's Difficult but Transformative Relationship with Technology*. [Doctoral dissertation, University of Saskatchewan], pp. 300-301. Retrieved from: <https://harvest.usask.ca/handle/10388/13211>

¹⁵³ Rowles, S.M. (2020). *Technological Transitions in the Far North: Yukon People's Difficult but Transformative Relationship with Technology*. [Doctoral dissertation, University of Saskatchewan], p. 161. Retrieved from: <https://harvest.usask.ca/handle/10388/13211>

4.3 Tourism

4.3.1 State of the Sector

The tourism sector makes notable contributions to the Yukon's economy. The sector includes retail trade, accommodation and food services, transportation and warehousing, wholesale trade, real estate, rental and leasing, arts, entertainments, and recreation. **In 2018, the sector contributed 5% of the Yukon's GDP (\$146.1 million), while also contributing \$367.8 million in gross revenues to businesses.**¹⁵⁴

In 2018, the Erik Neilson Whitehorse International Airport in Whitehorse saw an increase of 6% from the previous year, welcoming 194,000 passengers.¹⁵⁵ More than 50% of visitors to the Yukon are from the United States, while the rest are predominantly from within Canada and Europe.¹⁵⁶ **The sector is also a significant employer, representing 9% of Yukon jobs in 2019.**¹⁵⁷ Canada's 2016 census indicates that in the Yukon, 52.2% of workers in the sector are female while 47.8% are male. This is to the national average.¹⁵⁸ Canada's 2016 census specifically counts 2,390 people working in the Yukon's tourism industry.¹⁵⁹

According to a Yukon Department of Tourism survey conducted in 2019, **Yukoners have a positive perception of tourism** in the province and believe that the sector contributes to the economy.¹⁶⁰ They also believe that it creates jobs, helps preserve and celebrate their culture, and contributes to their quality of life. However, some Yukoners had concerns such as visitor traffic on Yukon highways and damage to the environments and natural resources (e.g., hunting, fishing etc.).¹⁶¹

The **Yukon Tourism Development Strategy** seeks to undertake several actions to grow the industry, including improving infrastructure and access (e.g., roads, wireless internet connectivity), and implementing a regulatory framework that will allow the territory to leverage

¹⁵⁴ Yukon Bureau of Statistics. (2019). Yukon Business Survey 2019. Retrieved from: https://yukon.ca/sites/yukon.ca/files/ybs/2019_business_survey_report.pdf

¹⁵⁵ The Government of Yukon. (2018). Tourism Yukon 2018 Year-End Report. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/tc/tc-tourism-yukon-2018-year-end-report.pdf>

¹⁵⁶ Yukon Bureau of Statistics. (2018). Visitor Exit Survey 2017/18. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/tc/tc-visitor-exit-survey-2017-18.pdf>

¹⁵⁷ Yukon Bureau of Statistics. (2019). Tourism Employment 2019. Retrieved from: https://yukon.ca/sites/yukon.ca/files/ybs/pthrm_tourism_19.pdf

¹⁵⁸ Tourism HR Canada. (n.d.) Census Data: Who Works in Tourism? Retrieved from: <https://tourismhr.ca/labour-market-information/tourism-census-data/>

¹⁵⁹ Tourism HR Canada. (n.d.) Tourism by Federal Riding. Retrieved from: <http://tourismhr.ca/labour-market-information/tourism-by-federal-riding/>

¹⁶⁰ The Government of Yukon. (2021). 2019 Yukon Resident Perceptions of Tourism Survey. Retrieved from: https://yukon.ca/sites/yukon.ca/files/tc/tc-resident-perceptions-tourism-survey-2019_0.pdf

¹⁶¹ The Government of Yukon. (2021). 2019 Yukon Resident Perceptions of Tourism Survey. Retrieved from: https://yukon.ca/sites/yukon.ca/files/tc/tc-resident-perceptions-tourism-survey-2019_0.pdf

maximum benefits.¹⁶² In addition, the Yukon tourism development strategy further acknowledges **Indigenous tourism**, which provides an avenue for the celebration and sharing of Yukon's First Nations stories and culture.¹⁶³ Action plans in the strategy specific to First Nations include a Yukon First Nations Tourism Summit that will bring together Indigenous tourism stakeholders in the territory thereby raising awareness on their culture and traditional stories.

Cultural tourism remains a growing area of interest for visitors to the territory, with many visitors interested in learning about history, arts, and culture.¹⁶⁴ Nordicity's *Socio-Economic Impact Assessment* for Yukon First Nations Culture and Tourism in 2020 noted that the Yukon has seen an increasing demand especially for Indigenous cultural and tourism experiences, which continue to positively create impact for communities in terms of employment and learning about traditional practices.¹⁶⁵ Thus, the Government of Yukon increasingly recognizes the need to support cultural centres through funding and training programs to enable communities to cater to cultural tourism; for example, through funding programs, training opportunities, and inclusive programming.¹⁶⁶

In response to the impact of the pandemic, in December 2020, the Government of Yukon established a **Tourism Relief and Recovery Plan**. This plan committed \$15 million towards supporting the recovery of the sector through to 2022.¹⁶⁷ With this plan in effect and new operating regulations introduced, about 80% of job losses during the pandemic have been recovered.¹⁶⁸ Nonetheless, businesses that run heavily on in-person presence continue to face challenges in adapting to new regulations particularly around the gathering of people.

¹⁶² The Yukon Tourism Development Strategy Steering Committee. (2018). Yukon Tourism Development Strategy. Sustainable Tourism. Our Path. Our Future. 2018-2028. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/tc/tc-yukon-tourism-development-strategy.pdf>

¹⁶³ The Yukon Tourism Development Strategy Steering Committee. (2018). Yukon Tourism Development Strategy. Sustainable Tourism. Our Path. Our Future. 2018-2028. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/tc/tc-yukon-tourism-development-strategy.pdf>

¹⁶⁴ Government of Yukon. (2020). What We Heard: Creative and Cultural Industries Strategy. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/tc/tc-ccis-what-we-heard-report-february-2020.pdf>

¹⁶⁵ Nordicity. (2020). Socio-Economic Impact Assessment for Yukon First Nations Culture and Tourism Association (YFNCT).

¹⁶⁶ Government of Yukon. (2020). What We Heard: Creative and Cultural Industries Strategy. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/tc/tc-ccis-what-we-heard-report-february-2020.pdf>

¹⁶⁷ The Government of Yukon. (2021). Fiscal and Economic Outlook • March 2021. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/fin/fin-2021-22-fiscal-and-economic-outlook.pdf>

¹⁶⁸ The Government of Yukon. (2021). Fiscal and Economic Outlook • March 2021. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/fin/fin-2021-22-fiscal-and-economic-outlook.pdf>

Key Trends and Driving Forces Affecting the Yukon Tourism Sector

Labour Shortages: These shortages are exacerbated by an aging population, and the ongoing impact of the pandemic and uncertainties regarding the pandemic recovery.

Flexible Work Arrangements: Workers' growing preferences for **remote working can be a challenge** given tourism's dependence on in-person.

Digitization: There is a growing access to new audiences due to digitization, but this also poses challenges. Tourists now expect to have access to online content when planning their trips, including virtual tours and access to digital programming. Furthermore, marketing opportunities are offered by digital platforms but also challenges exist related to finding staff with the right digital skills and sufficient bandwidth for digital engagement (e.g., livestreaming).

Self-Directed Travel: Visitors are increasingly organizing their own trips to the territory, disrupting the role of travel intermediaries.

Automation: This can offer higher efficiency thanks to software using big data, robotic process automation (RPA), including personalized recommendations for customers and faster sales. However, it requires digital expertise to implement and manage systems, interpret the data, and implement actions based on the insight.

The Gig Economy: Platforms like Airbnb offer new entrepreneurial opportunities and appeal to independent travellers but pose challenges. For instance, Airbnb can impact hoteliers and exacerbate housing crises.

Indigenous Cultural Tourism: This segment is one of fastest growing areas of the sector, and potentially offers huge opportunities for individual Yukon communities as well as for the territory more widely.

4.3.2 Opportunities, Strengths, and Challenges

Table 3: SWOT Analysis of the Yukon Tourism and Hospitality Sector

SWOT ANALYSIS	
OPPORTUNITIES	THREATS
<p>Regaining momentum as pandemic restrictions ease</p> <p>Cultural and Indigenous tourism – increasing number of visitors interested in learning about history, arts, and culture</p> <p>Community-engaged tourism</p> <p>Increasing reach due to increased digital activities</p> <p>A move from traditional work arrangements to flexible work arrangements and the gig economy could be carefully leveraged for good</p>	<p>Ongoing labour shortage</p> <p>Post-pandemic recovery challenges – e.g., challenges adapting to regulations, traveler caution</p> <p>Crises in communities – naturally the priority over tourism efforts</p> <p>Housing crisis and rising cost of living</p> <p>Over-tourism – risking damage to the environments and natural resources (e.g., hunting, fishing etc.), losing uniqueness of the Yukon</p> <p>Lack of investment in upskilling to meet the demand – e.g., digital, IT, marketing skills</p> <p>Impact of digitization on jobs – e.g., the displacement of travel intermediaries will impact the labour force in the industry</p>
STRENGTHS	WEAKNESSES
<p>Unique cultural identity(ies) and signature experiences and festivals (e.g., Adäka Cultural Festival, Available Light, Arts in the Park)</p> <p>5% of the Yukon’s GDP and 9% of employment (2018 & 2019 data)</p> <p>Positive perception of tourism from Yukoners (Yukon Dept. Tourism survey, 2019)</p> <p>Yukon’s Tourism Development Strategy – clear aims to grow sector and address current needs</p> <p>Government of Yukon’s Tourism Relief and Recovery Plan, (committed \$15m resilience funding to the sector till end 2022) – resulted in the recovery of around 80% of pandemic job losses so far</p>	<p>Heavily dependent on human capital – and there aren’t currently enough workers; hard to compete with government wages</p> <p>Highly seasonal – hard to have year-round income; gig economy, challenges for financial sustainability</p> <p>Weak copyright/patents</p> <p>Brain drain (e.g., youth leaving the Yukon)</p> <p>Internet connectivity – persistent challenge for many communities, exacerbating digital divide</p> <p>Skills gap means some opportunities not fully realized yet – e.g., growing need for digital skills</p>

4.3.3 Critical Uncertainties

The Yukon’s tourism industry faces certain uncertainties in the near and mid-term future.

Post-Pandemic Recovery

- It is **unclear what pandemic recovery will look like** in the coming year and beyond. COVID-19 closures had a devastating impact on the Yukon’s tourism industry.

International border crossings declined by 92% from January to June 2020, and air arrivals to Whitehorse declined by 74%. While the outlook is now more promising, it is possible that COVID-19 may have an ongoing impact.

- Additionally, the pandemic has exacerbated existing **labour and skills shortages** in the sector. It remains unclear what type of solutions are needed to address the shortages and how soon any solution could be implemented.

Digitization and Technology

- Across sectors, **digitization** presents a myriad of challenges and uncertainties. Within the tourism industry, it remains unclear how the workforce can upskill to improve digital competencies and meet evolving **digital training needs**.
- **Technology** may also change the face of the Yukon's tourism sector in unpredictable ways. For instance, new roles may emerge and a demand for virtual tourism experiences may increase.
- Finally, although investments are being made to improve internet bandwidth in the Yukon, it is unclear how soon **connectivity issues** will be addressed.

4.3.1 Future Skills Considerations

The following opportunities and needs emerged in interviews and the tourism focus group:

Valuing Tourism in the Yukon

- A unique draw for tourists to the Yukon is the opportunity to develop **authentic experiences in communities**, with local people sharing their own stories and representing their own communities. To develop this further, it is essential that partnerships with Indigenous communities are established from a **respectful, collaborative perspective** that is considerate of cultural differences.
- Traditional valuation in the tourism sector focuses on the volume of visitors as opposed to the length of their stay or their spending. To assess the full impact of the tourism sector, a shift towards **thinking about value in new ways** is needed. Investigating this further could provide the data necessary to **acquire increased funding**.
- Finally, labour retention is a critical issue in the tourism industry. Adequately pricing wilderness and Indigenous tourism experiences would enable the sector to **offer competitive salaries**, change the perception that tourism is a **valuable career path**, and **retain full-time employees** in the long-term.

Training for True Partnership

- A diverse skillset is required for the tourism sector. Specifically, the research highlighted a need for training in **digital and social media marketing** as well as **administrative competencies** (e.g., budgeting, reporting). Leveraging digital platforms to reach wider audiences and developing mentorship programs are two tools identified through our research.
- To improve the quality of Indigenous tourism experiences and to develop market-ready products, increased funding and training are key. **Continued education for both**

industry personnel and Indigenous operators could help to connect partners, identify best practices for collaboration, and establish culturally sensitive working arrangements that are based in **true, respectful partnerships**.

4.4 Creative and Cultural Industries

4.4.1 State of the Sector

According to Statistics Canada, the **Yukon's cultural sector's contribution to GDP was \$59.7 million in 2018**, amounting to 2% of the total territorial economy and supporting **693 jobs**.¹⁶⁹ Culture's contribution of 2% in the Yukon's economy compared to 2.7% in Canada in 2018 demonstrates that "there is significant potential for the Yukon to grow this sector."¹⁷⁰

In the Yukon, the territorial government refers to the industry as "the creative and cultural industries," defining it as relating to "the production or reproduction, promotion, distribution and commercialization of goods, services and activities of content derived from cultural, artistic or heritage origins."¹⁷¹ The sector contributed a GDP of \$1.59 million to the Yukon economy in 2017.¹⁷²

The Yukon film and television industry, which is composed of commercial and mostly independent filmmakers, remains a massive part of the sector. The Yukon film industry has produced a number of successful shows including *Gold Rush*, the reality TV series filmed in Dawson City and the Klondike region. This show, and others, have generated notable employment through the hiring and training of local people, including Indigenous people. The industry has also attracted additional tourism to the Yukon through various collaborations. For example, Raw TV, the production company filming *Gold Rush*, has collaborated with Dawson City to contribute to the city's tourism strategy.¹⁷³

As illustrated in Figure 5 below, the Government of Yukon follows the 2011 Canadian framework for Culture Statistics' core domains in describing the creative and cultural industries as including – but not being limited to – the following: sound recording; visual and applied arts; crafting; audio-visual and interactive media; film; photography; graphic design; architecture; live

¹⁶⁹ Government of Yukon. (2021). Creative and Cultural Industries Strategy. Retrieved from: <https://yukon.ca/en/creative-and-cultural-industries-strategy#what-are-the-creative-and-cultural-industries>

¹⁷⁰ Government of Yukon. (2021). Creative and Cultural Industries Strategy. Retrieved from: <https://yukon.ca/en/creative-and-cultural-industries-strategy#what-are-the-creative-and-cultural-industries>

¹⁷¹ Government of Yukon. (2021). Creative and Cultural Industries Strategy. Retrieved from: <https://yukon.ca/en/creative-and-cultural-industries-strategy#what-are-the-creative-and-cultural-industries>

¹⁷² Nordicity. (2019). Economic Impact Analysis of the Media Production Industry in Yukon.

¹⁷³ Nordicity. (2019). Economic Impact Analysis of the Media Production Industry in Yukon.

performance; theatre; written and published works; heritage and libraries; plus the labour force and institutions required to support these industries.¹⁷⁴

Figure 5: Yukon's Creative and Cultural Industries



Source: Government of Yukon, Creative Potential: Advancing the Yukon's Creative and Cultural Industries, 2021

In November 2021, the Government of Yukon released its **first creative and cultural industries strategy**, the [Creative Potential: Advancing the Yukon's Creative and Cultural Industries](https://yukon.ca/en/creative-and-cultural-industries-strategy#what-are-the-creative-and-cultural-industries). The 10-year strategy, developed by the Government of Yukon's Tourism and Culture, and Economic Development and Education departments, aims to stimulate growth (via investments in people, product, marketing, and infrastructure); provide focus policies, programs, and services (to provide a "solid framework of supports"); strengthen connection in the sector via collaboration, sharing of resources, and establishing networks; and foster knowledge (via research, training, and education). Its target outcomes are:

- Tangible recognition of the sector's contribution to economy and society
- Greater access, sales, and discoverability in local, national, and international markets
- Innovative and quality product development
- Supportive infrastructure
- Viable and sustainable income opportunities

¹⁷⁴ Government of Yukon. (2021). Creative and Cultural Industries Strategy. Retrieved from: <https://yukon.ca/en/creative-and-cultural-industries-strategy#what-are-the-creative-and-cultural-industries>

- Greater voice and representation for the sector
- Accelerated development of youth talent in the sector
- Relevant, accessible, and affordable skill-based and business training

The strategy is currently in Phase 1, '**COVID Recovery**,' addressing the impact of the COVID-19 pandemic and contributing to the Yukon's broader economic recovery and health and wellbeing. The phase aims to build digital capacity, reach new markets, launch new funding

Key Trends and Driving Forces Affecting Yukon Creative & Cultural Industries

Creative Hubs and Clusters: These hubs are becoming integral to the development of the creative economy globally. In the Yukon, the Northlight Innovation facility houses [Yukonstruct](#), a shared space for creatives and [YukonU's Innovation and Entrepreneurship](#) team. Whitehorse has also become a hub for commercial activities such as marketing and communications agencies. The 'hub' or cluster model could have potential for communities outside of Whitehorse.

Technology and Digital Platforms: These platforms are opening access to destinations and new audiences but also posing challenges. Accelerated by the pandemic and the forced pivot to online and remote work, the sector has been the hardest hit and continues to recover from the pandemic. Initiatives such as [the Digital Innovation Council for Arts and Culture](#) in the Yukon explore digitization of the arts in ensuring that creatives can leverage the benefits.

Digital Monetization: International e-transfer payment systems (e.g., PayPal and M-Pesa) and streaming platforms (e.g., YouTube and Spotify) have opened new revenue streams – becoming increasingly vital to artists and creatives.

Emerging Funding Models: Impact investment is an opportune mechanism for supporting the creative economy, with a focus on sustainability and equity. Community development funds are becoming a source of finance for creatives, as policymakers recognize the sector's potential impact.

streams, and increase training opportunities, as well as contribute to employment and income.¹⁷⁵

4.4.2 Opportunities, Strengths, and Challenges

Table 4: SWOT Analysis of the Yukon Creative and Cultural Sector

SWOT ANALYSIS	
OPPORTUNITIES	THREATS
<p>Entrepreneurship relating to cultural heritage</p> <p>New audiences opened up by digital</p> <p>Connecting more firmly to new markets – within Canada and internationally</p> <p>Nomadic workers attracted to the Yukon by pandemic-induced remote working</p> <p>New strategy from Gov Yukon (Nov 2021) – Creative Potential: Advancing the Yukon’s <u>Creative and Cultural Industries</u></p>	<p>COVID-19 – Potential future closures and ongoing pandemic challenges</p> <p>Digital divide growing between Yukon communities and rest of Canada/world</p> <p>Housing crisis and rising cost of living</p> <p>Insufficient funding</p> <p>Recruitment – hard to compete with government wages; attraction; retention</p> <p>Weak copyright/patents</p> <p>Brain drain (e.g., youth leaving the Yukon)</p> <p>Lack of training in the Yukon for technical CCI roles, e.g., theatre technicians</p>
STRENGTHS	WEAKNESSES
<p>Rich cultural heritage of the Yukon – First Nations, Inuit and Métis culture, rich settler history and incredible nature</p> <p>Signature festivals (e.g., Adäka Cultural Festival, Available Light, Yukon Rendezvous Festival, Arts in the Park)</p> <p>Growing film industry</p> <p>Attending museums/visiting heritage destinations are among top 3 activities for visitors (Yukon Visitor Exit Survey 2017-18)</p> <p>Some innovative digital projects underway in the Yukon – e.g., Yukon Spin from Transportation Museum, Beringia Science Talks</p>	<p>Difficult sustaining incomes for many</p> <p>Insufficient digital infrastructure (i.e., bandwidth issues)</p> <p>Much Yukon CCI focused on Whitehorse</p> <p>Weak digital skills/knowledge of copyright and business skills</p> <p>Reliance on external labour/recruitment from outside the Yukon</p> <p>Long distances between communities make face-to-face collaborating/networking challenging</p>

¹⁷⁵ Government of Yukon. (2021). Creative and Cultural Industries Strategy [webpage]. Retrieved from: <https://yukon.ca/en/creative-and-cultural-industries-strategy#what-are-the-creative-and-cultural-industries>

4.4.3 Critical Uncertainties

Imagining the future of the creative and cultural industries in the Yukon requires confronting the following uncertainties.

Post-Pandemic Recovery

- Creative and cultural workers have been heavily impacted by the pandemic. As the Yukon makes its way towards a **post-pandemic recovery**, it is uncertain whether future lockdowns will be needed and what this recovery will look like for this sector.

Digitization

- Digitization is a pressing concern across all sectors in the Yukon, yet it remains unclear when this issue will be resolved. The creative and cultural industries are missing **much-need infrastructure** to support their digital needs, including cultural producers' abilities to sufficiently leverage digital marketing and e-commerce opportunities.

Housing and Labour Shortages

- Uncertainty regarding **housing and labour shortages** presents challenges to this sector. The **cost of living** continues to rise, and a **lack of affordable housing** persists. It is uncertain how soon the housing crisis will be addressed.
- Additionally, the sector is unable to compete with competitive public sector salaries, which makes **recruiting talent and staff** difficult. Solutions to this ongoing problem are unclear.

4.4.4 Future Skills Considerations

As the demand for creativity grows in the Yukon, the following needs and opportunities emerge:

Skills Development for Creative Industries

- Specific skills and knowledge needed include **digital skills** (e.g., video editing), **knowledge of IP, marketing skills**, and **technical training for filming, performing arts, and events** (e.g., lighting technicians, audio technicians, staging, post-production).
- Training programs are needed to develop these skills and could be implemented through **co-op programs** in high schools and/or universities, **dedicated courses** at YukonU, or mentorship networks. Such programs would help build awareness of the wide range of career paths available within the industry, beyond what people typically imagine.
- To encourage participation and facilitate access in training programs both within the territory and beyond, **online delivery options** and **affordable transportation** are key.¹⁷⁶

¹⁷⁶ Government of Yukon. (2020). What We Heard: Creative and Cultural Industries Strategy, p. 8.

- Established creative entrepreneurs also require training to **connect with markets outside** of the territory, and support securing copyright production. There is also need for **more project managers and project coordinators**.

Innovative Infrastructure

- Without the appropriate infrastructure, the industry will have challenges developing creative content. Importantly, there is a pressing need to **improve digital infrastructure** and provide **reliable and affordable internet access**.
- There is an opportunity for YukonU to create **dedicated facilities** for production. In line with our findings, calls have been made for **improved infrastructure** via shared technology and a local technology/creative hub.¹⁷⁷ When designing such spaces or other facilities, affordability and accessibility must be prioritized.¹⁷⁸
- Our research suggests that potential avenues to explore include growing Yukonstruct and Innovation and Entrepreneurship and establishing creative industries exchanges with international partners.

Community-Tailored Approaches

- Planning for the future of the creative and cultural industries needs to be **based in communities**, addressing local priorities and challenges. There is a need to ensure that the creative process is **inclusive** and that the outcomes **support diversity and inclusion** across the territory. It is important that the needs of rural communities also be elevated.¹⁷⁹
- There is a need for greater collaboration between organizations, government bodies, and industry actors – as well as coordination between industry and vocational bodies – to respond to skills gaps more effectively.¹⁸⁰
- Youth are a key demographic, as they are the next generation of artists and creative workers, and they need extracurricular activities. Creative outlets are a means to **positively engage youth**.
- In the Yukon, this sector is **flexible and adaptable** with more crossover across disciplines. This collaborative environment presents an opportunity to **attract creative workers** from elsewhere who wish to work remotely in the Yukon. It also **encourages innovation**, as individuals with diverse skillsets work together to address collective issues in creative ways.

¹⁷⁷ Government of Yukon. (2020). What We Heard: Creative and Cultural Industries Strategy, p. 29.

¹⁷⁸ Government of Yukon. (2020). What We Heard: Creative and Cultural Industries Strategy, p. 7-8.

¹⁷⁹ Government of Yukon. (2020). What We Heard: Creative and Cultural Industries Strategy, p. 19.

¹⁸⁰ Government of Yukon. (2020). What We Heard: Creative and Cultural Industries Strategy, p. 13.

Financing

- **Modernized funding programs** with a reduced administrative burden and greater flexibility are needed.¹⁸¹
- Individuals in the creative industries desire **greater economic stability and income**. Recommendations to address this include tax breaks or benefits, as well as parallel policies to develop stable and affordable housing.¹⁸²

4.5 Clean Energy

4.5.1 State of the Sector

As climate change continues to threaten all aspects of life, clean energy sources are receiving increased focus as a way of powering work and economies.

The **impacts of climate change** are especially evident in the fragile northern parts of the globe such as the Yukon, where small climatic changes are having dramatic effects on the ecosystem. Temperatures in the territory are rising faster in the Yukon than in Canada as a whole, melting permafrost, sea ice and glaciers, reducing biocomplexity, and leading to the introduction of invasive species.¹⁸³ These impacts of climate change, alongside the territory's reliance on fossil fuels, make the Yukon especially vulnerable to energy cost volatilities and supply disruptions.¹⁸⁴

The Yukon's Current Energy Usage

The Yukon's energy sector is unique in Canada, as the grid is "islanded," meaning that it is not connected to adjacent transmission grids in British Columbia, Alaska, or the Northwest Territories. All electricity must be generated within the territory.¹⁸⁵

The Yukon's energy requirements are primarily met by hydroelectricity (90% of electricity in the territory is renewable) generated at three hydroelectric facilities in Whitehorse, Aishihik, and Mayo. However, hydro needs to be complemented by other energy sources to meet power demands in the winter. For example, Whitehorse's hydro facility can produce 40 megawatts of power in summer but only 25 megawatts in winter.¹⁸⁶ Therefore, liquefied natural gas (LNG) and diesel generation facilities are used to meet power requirements during peak demand or hydro

¹⁸¹ Government of Yukon. (2020). What We Heard: Creative and Cultural Industries Strategy, p. 8.

¹⁸² Government of Yukon. (2020). What We Heard: Creative and Cultural Industries Strategy, p. 34.

¹⁸³ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), p. 220. doi:10.22584/nr49.2020.016

¹⁸⁴ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), p. 220. doi:10.22584/nr49.2020.016

¹⁸⁵ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), p. 220. doi:10.22584/nr49.2020.016

¹⁸⁶ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), p. 220. doi:10.22584/nr49.2020.016

disruptions.¹⁸⁷ In addition, only 26% of heat energy in the Yukon comes from renewable sources with the rest coming from non-renewable sources like diesel and propane.¹⁸⁸

Although the Yukon's greenhouse gas emissions are relatively low (0.1% of Canada's emissions) primarily due to the small population, the territory remains the 6th highest in Canada with 18 tonnes of emission per person per year.¹⁸⁹ In 2019, most of the emission come from transportation (62%), heating (16%), mining (8%), and electricity generation (7%).¹⁹⁰

While on-grid communities in the Yukon are able to meet most of their power demands through the territory's hydroelectric energy supply, this is not the case for off-the-grid communities such as Old Crow, Beaver Creek, Burwash Landing, Destruction Bay, and Watson Lake.¹⁹¹

It can be difficult to integrate intermittent clean energy sources such as wind or solar into the grid because they cannot guarantee meeting peak demands. The subarctic Yukon climate's long, cold winters and brief, warm summers mean that there are technical constraints on viable clean energy projects. Although the Yukon's almost 24 hours of daylight in summer mean that off-grid solar systems operate efficiently in summer, in winter they require a system to store excess energy such as batteries, alongside backup energy sources such as diesel in the dark winter months.¹⁹²

Clean Power Initiatives in the Yukon

Research indicates that Yukoners' attitudes to energy sources is slowly changing from the "resource-driven mentality" of the past.¹⁹³ Furthermore, a 2016 Electricity Values survey conducted by the Yukon Bureau of Statistics revealed that **close to two-thirds (59%) of Yukoners have indicated that renewable energy is their preferred future energy source**, almost one-third (31%) chose energy conservation, and only 5% of respondents chose fossil

¹⁸⁷ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), p. 220. doi:10.22584/nr49.2020.016

¹⁸⁸ Government of Yukon. (2020). Our Clean Future | A Yukon Strategy for Climate Change, Energy and a Green Economy. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/env/env-our-clean-future.pdf>

¹⁸⁹ Government of Yukon. (2021). Greenhouse Gas Emissions in Yukon: 2019. Retrieved from: <https://open.yukon.ca/sites/default/files/env-greenhouse-gas-emissions-yukon-2019.pdf>

¹⁹⁰ Government of Yukon. (2021). Greenhouse Gas Emissions in Yukon: 2019. Retrieved from: <https://open.yukon.ca/sites/default/files/env-greenhouse-gas-emissions-yukon-2019.pdf>

¹⁹¹ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), p. 220. doi:10.22584/nr49.2020.016

¹⁹² Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), p. 220. doi:10.22584/nr49.2020.016

¹⁹³ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), p. 236. doi:10.22584/nr49.2020.016

fuels.¹⁹⁴ Furthermore, 44% of participants ranked environmental protection as the most important issue out of four energy factors (the others being cost, reliability, and social responsibility).¹⁹⁵

Yukoners are increasingly harnessing clean energy sources such as wind, solar, geothermal, and biomass to power their communities and reduce their emissions.¹⁹⁶ Many of these innovative projects are being led by Yukon First Nation communities, as discussed below.

Responding to the need for a sustainable, green economy, the Government of Yukon developed the strategy *[Our Clean Future: A Yukon Strategy for Climate Change, Energy and a Green Economy \(2020\)](#)*. The strategy seeks to address climate change by building thriving and resilient economies powered by renewable energy towards protecting and restoring the natural environment.¹⁹⁷

[Yukon Energy's 10-Year Renewable Electricity Plan](#) aims to reorient the Yukon's energy landscape through construction of a battery storage facility, updates to existing hydro-infrastructure, and improved transmission networks.¹⁹⁸ Federal funding of \$32.2 million has already been secured for one of the plan's key projects – the Atlin Hydro expansion.¹⁹⁹ The Atlin project will expand the energy grid, adding approximately 8% to the territory's existing electrical system.²⁰⁰

In September 2020, the Government of Yukon announced a \$5.4 million investment from its Clean Energy for Rural and Remote Communities program into five community-led and

¹⁹⁴ Yukon Bureau of Statistics (2016). Yukon Electricity Values Survey 2016 Report, Government of Yukon, November 2016. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/ybs/fin-yukon-electricity-values-survey-2016.pdf>

¹⁹⁵ Yukon Bureau of Statistics (2016). Yukon Electricity Values Survey 2016 Report, Government of Yukon, November 2016. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/ybs/fin-yukon-electricity-values-survey-2016.pdf>

¹⁹⁶ Furlong, K. (2020). EmPower the Yukon. Using Community Renewable Energy in the Transition to Energy Resilience: A Social Enterprise Approach. *Northern Review*, (49), p. 220. doi:10.22584/nr49.2020.016

¹⁹⁷ Government of Yukon. (2020). Our Clean Future | A Yukon Strategy for Climate Change, Energy and a Green Economy. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/env/env-our-clean-future.pdf>

¹⁹⁸ Yukon Energy. (n.d.). *Plan Highlights*. Retrieved from: <https://yukonenergy.ca/energy-in-yukon/electricity-in-2030/our-draft-10-year-plan/plan-highlights/>

¹⁹⁹ CBC News. (2022, April 11). Federal Government Committed \$32.2 Million to Renewable Electricity Expansion Project. *CBC News Online*. Retrieved from: <https://www.cbc.ca/news/canada/north/federal-funding-atlin-hydro-expansion-project-1.6415997>

²⁰⁰ Yukon Energy. (n.d.). *Atlin Hydro Expansion*. Retrieved from: <https://yukonenergy.ca/energy-in-yukon/projects-facilities/atlin-hydro-expansion/>

primarily First Nations, clean energy projects in the Yukon, to reduce reliance of diesel fuel for heat while creating jobs.²⁰¹

Indigenous-Led Clean Energy Projects

Indigenous communities in the North are experiencing the effects of climate change more rapidly and acutely than anywhere else in Canada. First Nations are leading many energy projects for their communities to better adapt to climate change impacts. Some of these community-led initiatives include, among others, the Carcross/Tagish First Nation's (C/TFN) partnership with Tsay Keh Dene Nation (TKDN) and Chu Cho Environmental of Prince George, B.C., focusing on examining environmental data related to the impact of climate change, and the Pelly Crossing Selkirk Development Corporation, leading the Selkirk Wind Resource Assessment project through the installation of a Sonic Detection and Ranging (SODAR) system. The project includes a feasibility study leading up to the construction of a renewable energy facility, including wind, solar and battery energy storage.²⁰²

"Assessing the availability of local renewable energy resources through the Selkirk Wind Resource Assessment project represents a significant opportunity to bring environmentally responsible and economically viable clean energy production to the traditional territories of Selkirk First Nation and Yukon."

Zachary Fulton, CEO of the Selkirk Development Corporation, speaking to Connie Vitello of the [Environment Journal](#).

²⁰¹ The \$5.4 million investment was shared between the following projects: Carcross/Tagish First Nation (\$2.1 million), Yukon Conservation Society (\$1.6 million), Teslin Tlingit Council (\$800,000), Government of Yukon (\$574,000), and Kluane First Nation (\$345,900).

Source: Government of Canada. (2020). Government Invests in Clean Energy Initiatives in Yukon. Natural Resources Canada, September 22, 2020. Retrieved from: <https://www.canada.ca/en/natural-resources-canada/news/2020/09/government-invests-in-clean-energy-initiatives-in-yukon.html>

²⁰² Vitello C. (2021). Yukon and B.C. First Nations Initiatives Tackle Climate Change. Retrieved from: <https://environmentjournal.ca/yukon-and-northern-bc-first-nations-initiatives-tackle-climate-change/>

Case Study: Vuntut Gwitchin “Sree Vyah” Old Crow Solar Project

In 2021, **Vuntut Gwitchin First Nation** launched its community-led, solar photovoltaic (PV) energy project “Sree Vyah” (the **Old Crow Solar Project**). The facility has been fully operational since August 2021. Previously, the remote community of 250 inhabitants 80 miles north of the Arctic Circle had relied on diesel flown in by planes for all its energy needs, leading to some of the highest economic and ecological electricity costs in Canada.

Vuntut Gwitchin First Nation – the independent power producer, owner, and operator – and ATCO Electric Yukon established a first-of-its kind electricity purchase agreement for ATCO to purchase the electricity for the next 25 years. As such, the facility will be an important revenue source for Old Crow in the coming years, as well as reducing local diesel use by approximately 190,000 litres annually and reducing CO2 emissions by 750 tonnes each year – equivalent to taking 160 cars off the road.

The project is part of Vuntut Gwitchin First Nation’s wider vision of meeting net zero carbon emissions by 2030. The Vuntut Gwitchin First Nation’s electricity purchase agreement with ATCO Yukon, allows citizens to buy energy directly from their nation, reducing their dependence on diesel fuel shipments. The project utilized a community engagement and education element which contributed notably to its success, and in the process, helped ‘Old Crow align their energy consumption needs with their environmental stewardship values’, making sure that the community benefits from the project.

“Sree Vyah (the Old Crow Solar Project) is what self-determination and sustainability looks like... the project shows that traditional values are an important part of the solution to modern challenges facing isolated, off-grid communities.”

-Erika Tizya, Natural Resource Director, Vuntut Gwitchin Government, 2021.

Sources

ATCO. (2021). Old Crow Solar Project. Renewables Project Profile, ATCO. Retrieved from <https://electric.atco.com/en-ca/community/projects/old-crow-solar-project.html>

UARCTIC. (2020). Old Crow Solar Energy Project: Integrating renewable energy sources in Canada’s North. Retrieved from: <https://www.uarctic.org/news/2020/7/old-crow-solar-energy-project-integrating-renewable-energy-sources-in-canada-s-north/>

Key Trends and Driving Forces Affecting the Yukon Clean Energy Sector

Climate Change Driving the Momentum Towards Clean Energy

- There is a recognition of the need to reduce emissions, e.g., United Nations Sustainable Development Goals #7 (Clean Energy), #13 (Climate Action), and Yukon's Our Clean Future strategy.
- Targeted government policies and incentives continue to play a key role. EmPower the Yukon is one such initiatives seeking to empower Yukoners in the drive towards clean energy.

Growing Demand for Electricity

- Growing population, new mines, electric vehicles, switching fossil fuel to electric heating in the Yukon are increasing demand for energy and electricity.
- The Government of Yukon is seeking to lower emissions while continuing to meet the needs of industries.
- There is a current gap between the need and availability of dependable grid capacity (i.e., for winter emergency conditions). This gap is driving demand for new, dependable, and renewable electricity sources.

First Nation Energy Leadership

- **Community-led economic development:** First Nations in Yukon have led [several energy-related initiatives with support from the provincial government](#). Community-led development can be a launchpad for innovation within a Northern context.

4.5.2 Opportunities, Strengths and Challenges

Table 5: SWOT Analysis of the Yukon Clean Energy Sector

SWOT ANALYSIS	
OPPORTUNITIES	THREATS
<p>Growing economic feasibility and falling costs of clean energy initiatives</p> <p>Inclusive socio-economic development – new jobs for communities, First Nations ownership, individuals</p>	<p>Supply vs demand mismatch, price volatility</p> <p>Economies of scale harder to achieve in the North</p> <p>'Business as usual' approach & slowness</p>

SWOT ANALYSIS	
<p>Incentivization of independent energy production, e.g., Independent Power Production policy (led by YG, Yukon Energy, ATCO), Micro-Generation Program</p> <p>Focus on training and capacity building – e.g., micro credentials, energy in the north programs</p> <p>Early education on energy</p> <p>Potentially more focus on biomass & wind</p> <p>Innovation working with other industries, e.g., transportation and mining, big data</p> <p>Positive environmental impact by embedding conservation principles</p>	<p>Policy development challenges – e.g., difficulty defining how regulations mesh with Umbrella Final Agreement</p> <p>Heavy reliance on hydro vs other renewables</p> <p>High costs to install clean energy tech</p> <p>Labour force gaps: Lack of technicians, engineers; costly reliance on outside labour</p> <p>Apathy – perceiving Yukon as too small to make a difference</p> <p>NIMBY-ism</p> <p>Viewing all renewable energy as ‘clean’</p>
STRENGTHS	WEAKNESS
<p>Over 90% of energy already from renewable sources – primarily hydro</p> <p>Comprehensive land claims agreements in the Yukon between YFNs and federal and Yukon Gov</p> <p>Strong economy in the Yukon</p> <p>The long hours of the Arctic summer sun means that the Yukon offers a great opportunity for solar power</p> <p>Ramping up of clean energy efforts - \$millions investment from federal gov to communities</p> <p>Community-led & development – e.g., Old Crow</p> <p>Entrepreneurs playing role alongside utilities</p> <p>Exciting developments already underway – e.g., Solvest Whitehorse energy farm</p> <p>Supportive policy – e.g., Our Clean Future strategic commitment, Gov Yukon (Sep 2020)</p>	<p>Islanded grid – Yukon must self-supply all its own capacity and energy</p> <p>Reliability – risk of critical blackouts</p> <p>Current lack of baseline energy literacy in Yukon populations – e.g., understanding what is/isn’t feasible</p> <p>Seasonal limitations – e.g., solar</p> <p>Affordability</p> <p>Energy storage</p> <p>Lack of attention on energy efficiency</p> <p>Lack of adequate consultation with communities</p> <p>Institutional culture within government and energy agencies viewed as a weakness by some</p> <p>Insufficient focus on conservation</p>

4.5.3 Critical Uncertainties

The following points present critical uncertainties for the future of the clean energy sector.

Energy Demand

- It is unclear how future energy demand in the territory will evolve. Therefore, **energy needs forecasts** remain uncertain. The inability to create accurate **energy needs forecasts** is due to multiple factors, such as uncertainty regarding whether future mines be connected to the Yukon’s grid and how demand for electric vehicles will change.

Costs and Financing

- **Costs and financing** for this sector may change. However, it is uncertain whether adequate federal government funding and investment from other sources will become available. Other outstanding questions include: How will energy rates change? And will consumers be willing to pay more for clean energy?

Labour Shortages

- Throughout all sectors, **labour and skills gaps** are a pressing concern. The needed solutions to address these gaps in the clean energy sector remain underdeveloped. For instance, training for technicians, engineers, home energy assessors, and mechanics for electric vehicles are required.

4.5.4 Future Skills Considerations

Within the clean energy sector, research findings identified the following considerations.

Advance Energy Knowledge

- To enhance the role of the clean energy sector a baseline priority was identified: addressing the **gap in energy literacy** in the Yukon. Specifically, there is a need to increase the basic understanding of energy usage, demand-side management, and of the potential for clean energy deployment across the territory. Such knowledge gap could be addressed at the high school level, through programs at YukonU, and through **training partnerships between educational institutions, industries, and NGOs**. There is also a need for more mentorship or apprenticeship opportunities both within and outside of Whitehorse.
- A second identified gap in the territory is a lack of **home energy assessors**. The industry currently needs around four times more capacity, so training could also focus in this area.
- With regards to remote communities, it may be especially important to incentivize this training and improve energy literacy. There is also a need for **more engagement with remote communities and First Nations** to understand their unique energy challenges.

Leverage Cultural Assets

- Features of the Yukon's community provide **opportunities for innovative thinking**. Specifically, the small population size could foster greater collaboration, and a culture of entrepreneurship is already present.
- Within the clean energy sector, **retrofitting homes** to increase energy efficiency, **testing out new technologies** on the Yukon's isolated energy grids, and **improving energy storage** are some potentially interesting areas to develop.

5. Key Considerations for Yukon University

5.1 Skills Training Needs

- In many scenarios, research suggests that the best training mix may be in **blending knowledge from within the territory with expertise from outside** of it.
 - This also relates to blended online/offline learning. For example, with primarily on-the-ground program delivery with some specific expertise brought in from outside (which could be remote).
 - Participants in rural locations noted that place-based learning is valuable. This means not only community-led education methods relevant to the uniqueness of each place, but also blended online/offline courses that enable people to stay where they are rather than move away.
- **Business planning and development skills** are of upmost importance for Yukon entrepreneurs. There is a strong need for more training to help people connect their products/services with markets outside of the Yukon.
 - Existing research by Nordicity for the Government of Yukon's Technology and Telecommunications Development Directorate in 2017 pointed to a need to develop **business planning skills**. The report recommended formalizing mentorship programs and business networks as two methods of developing local talent.²⁰³
 - The current study highlights other notable skills to develop, including **intercultural competencies, basic office skills, and marketing skills**. Where the Yukon excels, many entrepreneurs think creatively and develop innovation solutions to collective issues.
 - Several participants noted that the terms 'entrepreneur' and 'innovation' can either scare people or seem irrelevant to them. Many Yukoners do not see themselves or their ideas as entrepreneurial or innovative. Therefore, it could be beneficial to use different, more approachable language when focusing on outreach.
- The research pointed towards a need for **Indigenized training programs**.
 - Research participants expressed a need for formal recognition of Indigenous knowledge for example, by developing credentialed programs for traditional skills.
 - Moreover, participants highlighted the need to develop competencies in Indigenous languages and culture revitalization as well as knowledge of Indigenous self-governance structures.

²⁰³ Nordicity. (2017). Technology and Telecommunications Development Directorate (TTD) Program Review.

- Research participants suggested that training in Indigenous communities must be **led by community needs** and developed in partnership with the community. This approach is essential to ensure relevance, as well as community buy-in and participation.
- **Micro-credentials** could offer an innovative and more accessible means to address skills gaps in the Yukon.
 - YukonU already offers a suite of micro-learning courses through the continuing education program,²⁰⁴ however, there is room to expand offerings.
 - Specifically, focus group participants from the clean energy sector, creative industries, and public sector expressed interest in placing value on shorter-term educational programs rather than focusing primarily on four-year university degrees.
- In line with findings that suggest **soft skills are essential for the future of work**,²⁰⁵ research participants stressed the importance of developing creative and critical thinking, resilience, and flexibility.
 - One participant noted that developing these skills could help build the Yukon's local knowledge economy, while others stressed that digital skills and the field of STEM will be critical as the Yukon witnesses a shift towards a digital economy.
- A **lack of skilled professionals** was noted across sectors. From nurses and computer programmers to set designers and skilled contractors, this labour shortage is a foundational challenge.
- **Youth-specific programs:** While this research did not engage directly with youth, participants working with youth indicated that there may be a need for programs to build confidence and communication skills and to foster good mental health.
 - Specific skills training topics may include financial literacy, business skills, “back end” digital skills and knowledge of software such as Excel.
 - Additional training considerations highlighted by other recent research in the Yukon include: stronger efforts to involve youth in employment opportunities; helping youth access affordable housing and guidance for financial hardship; establishing a paid co-op program in the high school system; and providing

²⁰⁴ Yukon University. (n.d). Microlearning Workshops. Retrieved from:
<https://www.yukonu.ca/programs/continuing-education/microlearning>

²⁰⁵ See Section 2.3.

culturally sensitive, consistent and affordable counselling and mental health support.²⁰⁶

5.2 Networking and Mentorship

- **Increasing focus on transitions between K-12, training, and post-secondary education** was highlighted throughout the research.
 - At present, many Yukon youth are not progressing past K-12 education – including students who graduated high school.
 - There is a need for more mentorship of individual students at the K-12 level in order to encourage higher participation rates in training and post-secondary education, particularly in rural and First Nation communities.
 - Not all youth want to leave their communities but feel they would need to in order to continue education or training. The earlier point on blended delivery (e.g., online/offline, as well as blended local and outside knowledge) could be a valuable approach in offering world-class education and training from any location in the Yukon.
- **Stronger pathways to connect YukonU students directly with employers** could help address skills gaps.
 - Research participants noted the need for more opportunities for Work Integrated Learning (WIL) and co-ops to ensure that students can progress directly into employment.
 - Many employers see the need to connect with students before they graduate from YukonU and would like more opportunities to do so.
 - WIL can be an especially powerful way of making young people aware of the wide variety of potential jobs within a sector beyond the 'obvious' roles.
- To support newcomers, our findings suggest **inducting workers into communities and providing mentors**.
 - Some participants from smaller communities noted that it is important to mentor and induct workers when they arrive.
 - For example, if an employee is transferred from Whitehorse or from outside of the Yukon to a community, it is beneficial to have a 'buddy' or main contact introduce them to others. Without this support, newcomers may be unsure of how to participate in community life and find themselves feeling isolated.
- **Exploring the potential of professional networks of specialists** with a shared 'shop front' business identity.

²⁰⁶ CBYF Yukon (2021). Community Building Youth Futures: Research Conducted by Youth for Youth. Vanessa Oliverio, Samreen Ahmad, Yebin Park, Zarah Sydney, and Kamryn Williamson, and Robin Mennell, February 21, Whitehorse.

- A couple of interviewees spoke about the potential approach of professionals working together under one banner. By marketing themselves as a group, professionals could gain access to a wider variety of opportunities both inside and outside of the Yukon – particularly considering many jobs are now remote.
- Example industries where this may be relevant include skilled tradespeople, specialist technical workers within the creative industries, or project management and administrative workers across sectors.
- Networks can offer professionals the chance to specialize in one area. This pushes back against the pressure to be a 'generalist,' which appears to be felt by some in the Yukon. For example, a professional could accept only the work relating to their specialism and share others incoming opportunities with others in the network.
- **Creating more clusters like NorthLight Innovation** outside of Whitehorse could promote innovation in the Yukon.
 - Previous research by Nordicity concludes that innovation clusters can be powerful tools for drawing diverse talent to the region, generating new types of evidence, and boosting economic growth. By promoting exchange and collaboration between individuals, clusters foster networks of trust and facilitate knowledge sharing across sectors. Research shows that clusters have proven successful as advocacy platforms for a range of societal issues.²⁰⁷
- Providing **flexible programming and a range of training formats** – such as on-the-job training, online programs, or self-guided courses – could allow more individuals to gain experience. Furthermore, participants expressed the need for affordable education options.
- One of the challenges that emerged through this research was a tendency for sectors to be siloed. **Regular networking opportunities within and across industry areas** could be facilitated by YukonU and contribute to breaking down perceived barriers.

5.3 Recruitment and Retention

- **Wellness is a key foundational piece** that is currently overlooked by programming/training across the territory. When people are suffering from trauma and tragedy, they are often not able to effectively participate.
 - Research findings from communities outside of Whitehorse suggest it could be beneficial for YukonU to consider offering a **certificate in social wellness** (to complement certificates in other areas, e.g., social justice).
- Our research indicates that **recruiting for characters rather than credentials** could improve worker retention.

²⁰⁷ Nordicity. (2021). Creative Economy What Works Centre.

- A common comment from participants was that while the Yukon is not for everyone, it is perfect for some. The lifestyle and access to expansive wilderness has a very strong appeal for some individuals, so the unique lifestyle can be leveraged to attract workers.
- A couple of participants described the need to “hire for character” – i.e., focusing on hiring someone with the right attitude for the job who *wants* to live there. They suggested that one way to increase retention is focusing less on hiring specific expertise or credentials and being willing to train people.

“We've shifted the recruitment matrix, recruiting for character instead of a specific background. We're willing to look for other things aside from the standard desirable arts experience. This has really paid off in terms of hiring good people and attracting people who will stay longer.”

Interview participant, arts and culture sector

- **Flexible work approaches** and remote work will continue to grow, offering huge potential for Yukoners.
 - Currently, the underlying challenges of the housing shortage, poor service provision, and weak digital infrastructure are impacting workforce retention across the Yukon.
 - Our findings suggest that local talent may opt to study or seek employment outside of the territory and such challenges may dissuade individuals from relocating to the Yukon in the first place. Therefore, if people are able to work online with good connections (both digital and personal), it is likely more workers would stay in the territory.
- **Improving Yukon HR practices** could positively impact worker retention in the Yukon.
 - Several participants highlighted concerns about unsupportive practices from some Yukon employers. YukonU could explore capacity building or training for Yukon business owners in relation to HR, aiming to improve support and services for employees.

5.4 Future Research Directions

Key Future Skills According to Yukon Youth

- Youth are frequently not included in research due to both real and perceived vulnerabilities, meaning their voices and perspectives are often missing on topics that directly affect them.
- According to key informants working with youth, topics that may be of particular interest to youth are wellness (including mental health), confidence, climate action, self-governance, understanding finances/how to run a business.

- Potential partners could include the [Moccasin Trailblazers](#) (Indigenous youth leaders who advocate for changes to Yukon's education system, many of whom are Education Advocates for Yukon First Nation Education Directorate) and [BYTE "by youth, for youth"](#).
- Critical questions include: Which skills do Yukon youth themselves most want to develop? Which type of skills and avenues of employment do they believe are most important for the future? What barriers get in the way of Yukon youth pursuing their ambitions?

Redeployment Options for Shrinking Industries

- More research is needed into specific redeployment avenues for Yukon employees working in declining industries. For example, we heard from informants in Dawson that it is unclear what options will be available to local mining workers.
- Research avenues include: Which sectors and locations in the territory have the most at-risk jobs? What are the skills of those workers? What viable avenues for redeployment within the local area exist? Which training programs could YukonU (or others) provide to reequip those workers with the needed skills?

"Crowding out" Effects of Government Employment in the Territory

- As highlighted by this research, the four levels of government in the Yukon employ 44% of the Yukon workforce (Yukon Bureau of Statistics, 2021). A consistent theme in interviews was that the high levels of public sector employment and associated higher salaries make it very difficult for private and non-profit employers to retain talent.
- Key questions include: What effect is the high level of public sector employment having on the Yukon's economy? Is it shrinking other sectors, and to what extent? What balance of public/private/non-profit employment would be most likely to ensure resilient, sustainable economic development in the future?

Impact of Yukon Tourism

- The Future Skills research suggested that tourism's potential for inclusive economic development may currently be undervalued in the territory. As such, it could be beneficial to research tourism's impact on the territory, including for advocacy purposes as the sector recovers from COVID-19 shocks.
- Research paths include: What is the economic and social impact of tourism in the Yukon? How has the sector adapted and recovered post-pandemic?

Stronger Employment Pathways for YukonU Graduates

- Some Future Skills research participants described a desire for stronger pathways between the university and Yukon-based employers. It could be beneficial to conduct a needs assessment and/or strategy to build stronger pathways between YukonU and local employers. This project could involve research with students, graduates, recruiters, and HR professionals. The aim would be to understand current barriers, and to define ways to build better and smoother pathways between study at YukonU and employment within the territory.

- Research questions include: What are the main gaps and most promising paths to building stronger employment pathways between YukonU and local employers?

Appendix A. Methodology

This qualitative study is based on secondary research (i.e., a review of academic and grey literature and key policy documents) plus primary research with **70 Yukon-based participants**.

The primary research involved one-to-one interviews and focus groups, conducted between December 2021 and May 2022. Additionally, **around 20 people were consulted** in the planning stages of the project to help inform its development. This involved feedback on the topic and guidance from numerous actors, ranging from YukonU professors to First Nation development corporations and educational leaders. The research plan also received review and approval from YukonU's Research Ethics Board (REB).

Qualitative research methods (i.e., interviews and focus groups) were chosen for the depth of insight that they offer. Numerous quantitative reports have already been published looking at labour demand in the Yukon. Instead, **this study considers issues relating to the supply of labour and skills** in the territory, exploring current barriers and future opportunities. Additionally, informants advised us that there is a level of consultation fatigue in the Yukon when it comes to survey participation, and the small population is over-engaged.

Therefore, this research involved **thirty in depth, semi-structured interviews, and five focus group sessions**. The interviews were with a wide range of leaders from different sectors and communities. **Purposeful sampling** was used to recruit participants, following a method described by Patton (1990) to identify information-rich, carefully selected cases for in-depth study.²⁰⁸ The intention of the purposeful sampling approach will enable us to gain a great deal of relevant information on issues of central importance to the research topic.²⁰⁹ The research team identified and connected with participants via a mix of desk research (e.g., using contact details publicly available online) and via personal introductions, where a shared contact already existed.

Within the purposeful sampling approach, the **'maximum variation' recruitment strategy** was employed to select a diverse range of information-rich cases (rather than selecting participants for similarity), aiming to capture and describe the central themes that cut across a broad number of participants.²¹⁰ This strategy followed the logic that common patterns arising from a sample with great variation are likely to be of particular value, given that they arise from heterogeneity rather than homogeneity.²¹¹ Sampling participants in this way therefore led to 1) high quality, detailed descriptions of each case that were informative for documenting uniqueness, and 2) important shared patterns that cut across diverse cases.²¹²

The **focus groups** included one online session with YukonU staff, and four in-person sector-specific "Future Skills" research workshops conducted in Whitehorse in April 2022. The

²⁰⁸ Patton, M. (1990). *Qualitative Evaluation and Research Methods*. Beverly Hills, CA: Sage, pp. 169-186.

²⁰⁹ Patton, M. (1990). *Qualitative Evaluation and Research Methods*. Beverly Hills, CA: Sage, p. 169.

²¹⁰ Patton, M. (1990). *Qualitative Evaluation and Research Methods*. Beverly Hills, CA: Sage, p. 172.

²¹¹ Patton, M. (1990). *Qualitative Evaluation and Research Methods*. Beverly Hills, CA: Sage, p. 172.

²¹² Patton, M. (1990). *Qualitative Evaluation and Research Methods*. Beverly Hills, CA: Sage, p. 172.

workshops included representatives of the territory's tourism and hospitality sector, creative and cultural industries, clean energy sector, and the Government of Yukon (i.e., the territorial public sector). The sector focus group findings are outlined in Sector Deep Dives (Section 4).

To analyze the data, the research team coded interview and focus group notes thematically following a method described by M. Patton.²¹³ The findings were then re-coded with inductive coding based on additional themes emerging from two or more participants. These themes were then used to create categories and aggregated into dimensions, like 'labour shortages' (i.e., a key challenge) and 'social entrepreneurship' (e.g., an opportunity area). These dimensions and research findings are presented below in Sections 3.2 and 3.3.

²¹³ Patton, M. (2015). *Qualitative Research & Evaluation Methods: Integrating Theory and Practice* (Fourth ed.). SAGE Publications, Inc.