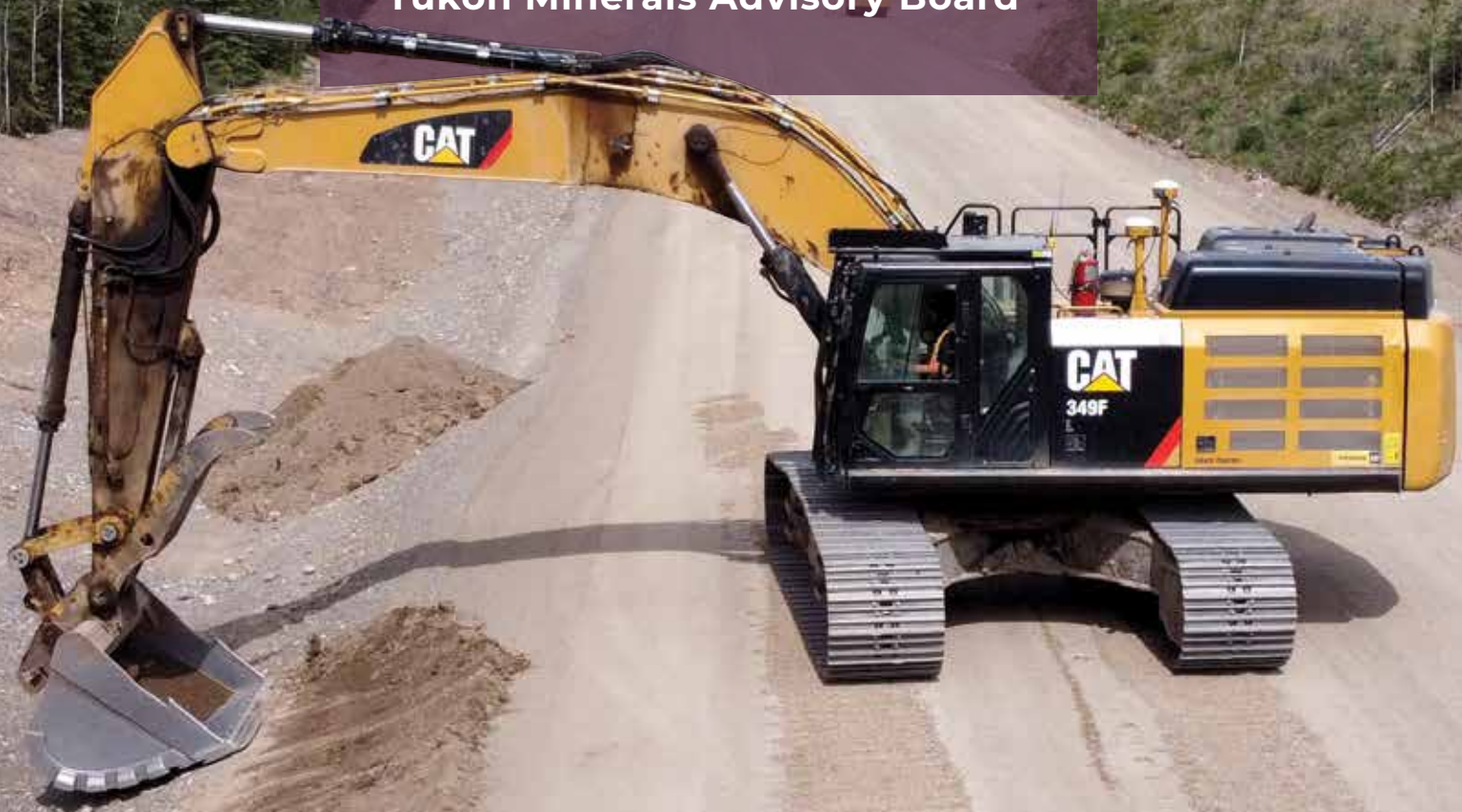


2023

ANNUAL REPORT



Yukon Minerals Advisory Board





Chair's Message

In this year's report, the Yukon Minerals Advisory Board proposes that gaps in infrastructure and the regulatory environment are a major contributor to the challenges the Yukon's private-sector – including mining – faces in operating viable, long-term businesses in our territory.



After the international financial and geopolitical tumult of 2022, events far closer to home impacted our industry in 2023. Our closest access to tidewater was reduced as the Skagway ore terminal was shuttered for upgrades and the removal of the ore loader in March. Minto Mine was abandoned by its owners in May and forest fires led to the evacuation of Victoria Gold Corporation's Eagle Mine in August.

The Minister engaged the Yukon Minerals Advisory Board (YMAB) to provide advice on how to manage closure of the Minto Mine efficiently and effectively while mitigating financial, environmental, and social consequences. Using the input and advice provided by the YMAB and the lessons learned from previous closures, government and industry contractors moved to execute a safe closure and mitigate environmental risk. Fortunately, the existence of a surety bond means the financial impact to Yukoners will be minimized. We commend the Minister and the Department's senior officials on the action taken in those early weeks following Minto's closure.

In this year's report, the YMAB proposes that gaps in infrastructure and the regulatory environment are a major contributor to the challenges the Yukon's private-sector – including mining – faces in operating viable, long-term businesses in our territory. Well-developed, strong infrastructure and a robust, responsive regulatory environment will support a well-developed, resilient economy.

Public investment in infrastructure provides significant economic return. The World Bank suggests every \$1 spent in public infrastructure generates \$1.50 in economic activity ([Foster et al.](#), February 2022). The boost in economic activity generated by infrastructure investments increases corporate and personal tax revenues, thus positively impacting non-transfer revenues to governments of all types – be they First Nation, Territorial or Federal.

These increased revenues can be used to further fund public services and additional infrastructure for all Yukoners. To the extent that this benefit will be felt by the entire territory, infrastructure provides an opportunity for meaningful and tangible investment in economic reconciliation.

The YMAB sees infrastructure improvements for the Yukon that will provide economic benefit as vital not only for the mining sector, but for communities across the territory. In this year's report, the YMAB submits four opportunities where increased focus by Yukon to improvements in infrastructure and the regulatory environment will deliver a more robust economy thereby providing Yukoners with significant economic advantage.

Respectfully submitted,



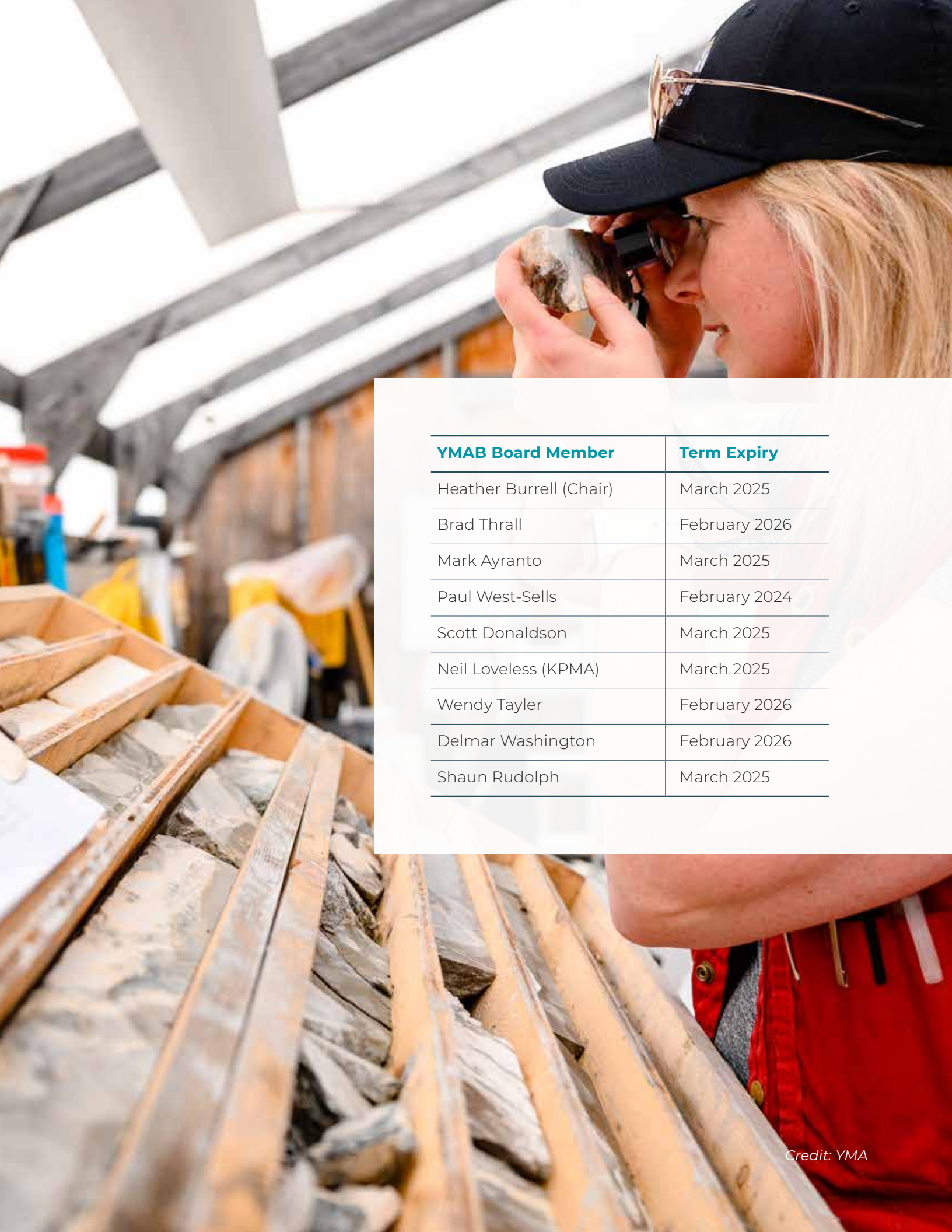
Heather Burrell
Chair

Preamble

The Yukon Minerals Advisory Board is established under Section 6 of the *Yukon Economic Development Act* and is charged with providing advice and recommendations to the Minister of Energy, Mines and Resources for governmental actions in relation to the following terms of reference for the Board:

- ▶ increasing mineral exploration and development in Yukon;
- ▶ attracting capital for the exploration and development of new mines;
- ▶ ensuring feasible and timely development of mines;
- ▶ improving the potential for producing mines to remain viable;
- ▶ participation by Yukon residents and businesses in mining;
- ▶ reducing constraints, including governmental constraints, on the development of minerals in Yukon;
- ▶ outreach with First Nations to explore the opportunities and benefits of mineral exploration and development in Yukon;
- ▶ such other matters pertaining to mineral exploration and development in Yukon as the Minister refers to the Board.

It is within the context of these Terms of Reference that the YMAB focuses its advice.



YMAB Board Member	Term Expiry
Heather Burrell (Chair)	March 2025
Brad Thrall	February 2026
Mark Ayranto	March 2025
Paul West-Sells	February 2024
Scott Donaldson	March 2025
Neil Loveless (KPMA)	March 2025
Wendy Taylor	February 2026
Delmar Washington	February 2026
Shaun Rudolph	March 2025

Opportunity

1

Expand Yukon with power generation and distribution

Yukon needs to increase availability of low cost and low greenhouse gas emitting electricity for all Yukoners.

Yukon's islanded electrical grid is increasingly being tested by record-setting electricity demand. Driven primarily by population growth ([Yukon](#), July 2023), electrical demand records are being shattered. The current record usage of 117.1 megawatts (MW) was set in December 2022, breaking the previous record set just 12 months prior. As the world electrifies in response to climate change, our electrical infrastructure development has lagged demand and will continue to be challenged to deliver the power Yukon needs for its economy to function.

Yukon's *Our Clean Future* has committed that "50 percent of our heat will come from renewable energy". Extrapolating from the Yukon Bureau of Statistics' *Yukon Energy Facts 2022*, achieving 50% electrical heating could mean more than doubling the number of houses heated by electricity from 2021. Our grid currently does not contain that capacity. New generation and new distribution networks will be required.



Yukon has set a goal of a 45% intensity reduction in mining emissions from current levels by 2035.

Yukon has set a goal of a 45% intensity reduction in mining emissions from current levels by 2035. A large portion of the emissions created in mining are from burning of fossil fuels to power machinery and to create electricity at remote sites. Meeting those intensity reduction targets requires reducing the amount of fossil fuel burned. Grid connections that provide abundant access to renewable and low greenhouse gas (GHG) electricity will assist mines in achieving these

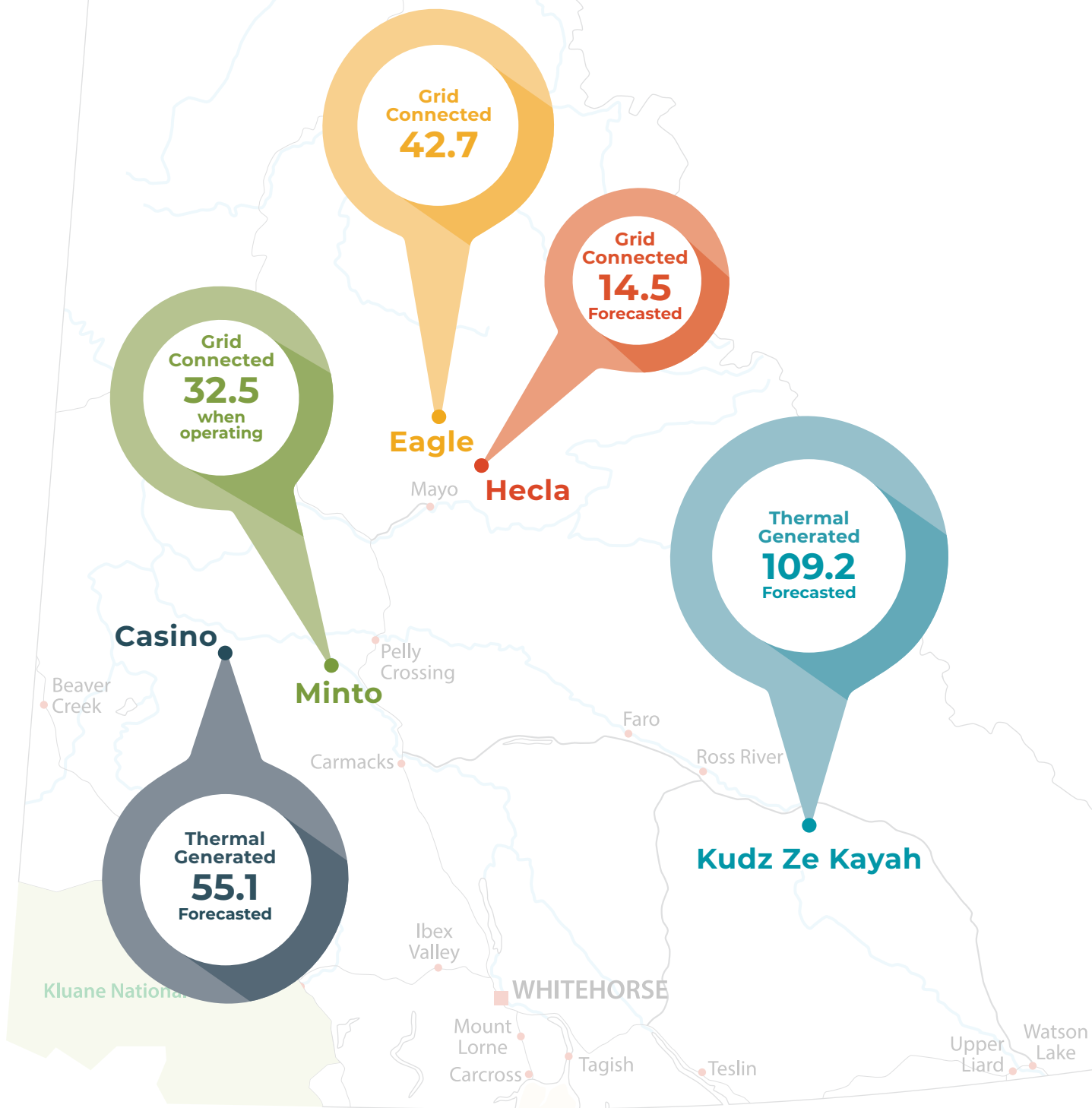
intensity targets through reduced reliance on thermally-generated electricity and increased electrification at site.

Fortunately for all Yukoners, good work has been done by Yukon on how to address this problem. Reports such as the *2016 Yukon Next Generation Hydro and Transmission Viability Study: Viability Study Report* and the supporting studies

by its author, Midgard Consulting, and Yukon Energy Corporation's (YEC) *2020 10-Year Renewable Electricity Plan Technical Report* provide options for expansion to meet the increased demand.

Since the release of these reports, the YMAB sees a shift in landscape that may make grid connection and/or increased hydrogeneration more viable. Importantly, major mine projects are advancing in the territory. As shown in the graphic, significant increases in electrical demand are imminent and the infrastructure is not there to support anything other than thermally-generated power.

Yukon Mines Annual Electricity Demand in Gigawatts



Equally influential, in August, 2023 Canada released its new *Clean Energy Regulations* that touted “electricity affordability” and “grid reliability”. The YMAB suggests these new regulations provide Yukon an opportunity to leverage Canada to meet the Yukon’s electrical grid expansion needs. We note that Minister Streicker agrees, telling the Canadian Press shortly after the regulations were released that “... we will want an electricity grid which stretches from coast to coast to coast. ...it’s sort of a nation-building moment” ([Joannou](#), August 2023).

Other jurisdictions must feel similarly of the opportunity these new regulations present. BC Hydro has announced in its [10-year Capital Plan](#) that it will spend upwards of \$15 billion “removing reliance on diesel generators in remote communities” and “connecting new customers” ([BC Hydro](#), January 2024). Ontario is bolstering its already significant investment in nuclear power with a [\\$19.8 billion refurbishment](#) of its Pickering Nuclear Power Generating Facility ([Ontario](#), January, 2024).



Credit: YMA

The YMAB acknowledges efforts by the YEC to help close Yukon’s electricity gaps through expansion of renewal projects such as the Moon Lake Pumped Storage and Whitehorse Grid-scale Battery Storage. But these efforts are small-scale as compared to Yukon’s forecasted supply gap detailed in the Midgard report. Somewhat alarmingly to the YMAB, YEC appear to assume a complete cessation of industrial or mining related activity by 2035 in its December, 2020 forecasts. This seems an unlikely scenario built to suit the fact that the proposed solutions cannot meet any surge in industrial power demand.

The YMAB is far more inclined toward Midgard’s high base-load forecast, which shows substantive growth in electricity demand through 2065. This is where Yukon should be aiming when deciding about how much capacity should be added to Yukon’s electricity grid.

As Yukon advances the evaluation of grid expansion options, it will be important that these reviews use a broader social and economic lens to determine the benefits than was employed in earlier reports. Midgard, for example, focused solely on the potential returns on electricity sales to other jurisdiction to evaluate the viability of connection to external grids.

It must be remembered that construction of this magnitude will create well-paying employment during the building phase. Grid-connected industry will create more stable cost environments for regional communities and future and current business operations. Grid-tied mines will reduce GHGs produced by thermally-generated power (a similar benefit will be experienced by the five isolated Yukon communities currently powered through thermal-generation). Greater access to renewable electricity will allow increases in electric vehicle transportation, including at mine sites, and along Yukon highways without increasing thermally-generated electricity.



Yukon Electrical Energy Gap Forecast (2035 to 2065)



Source: [Midgard](#), March 2015



Increased electricity generating and distribution capacity in our territory that allows large mines to connect to the grid has demonstrated benefits to Yukon electricity ratepayers. When Victoria Gold Corporation's Eagle Mine was connected to the grid, YEC's then President stated that rate "increase[s] won't be as high as it normally would be" thanks to the revenue the Eagle Mine created for YEC ([Rudyk](#), May 2019). Further, Victoria Gold

subsidized the construction of distribution infrastructure then returned that asset to YEC at minimal cost, ensuring YEC's other customers on that line received improved service without being burdened by the capital investment costs that would normally be passed on to them via electricity rates. This type of benefit must be factored into any evaluation of electrical grid expansion.

Finally, a narrow interpretation of economic return on electrical infrastructure overlooks the opportunity for economic reconciliation. Partnership with First Nations and First Nation Development Corporations in electrical grid expansion is an excellent opportunity to put economic reconciliation at the forefront of Yukon's electrical needs. Already this is happening with projects like the Atlin Hydro Expansion, but more must be done to ensure impact-benefit agreements or ownership-share if projects are going to be built in Yukon First Nation territory. Yukon holds the regulatory authority to ensure this happens. The YMAB sees a significant opportunity to grow Yukon's grid at the same time as providing economic empowerment for Yukon First Nations.

Opportunity

2

Roads (and aerodromes) for Yukoners, then resources

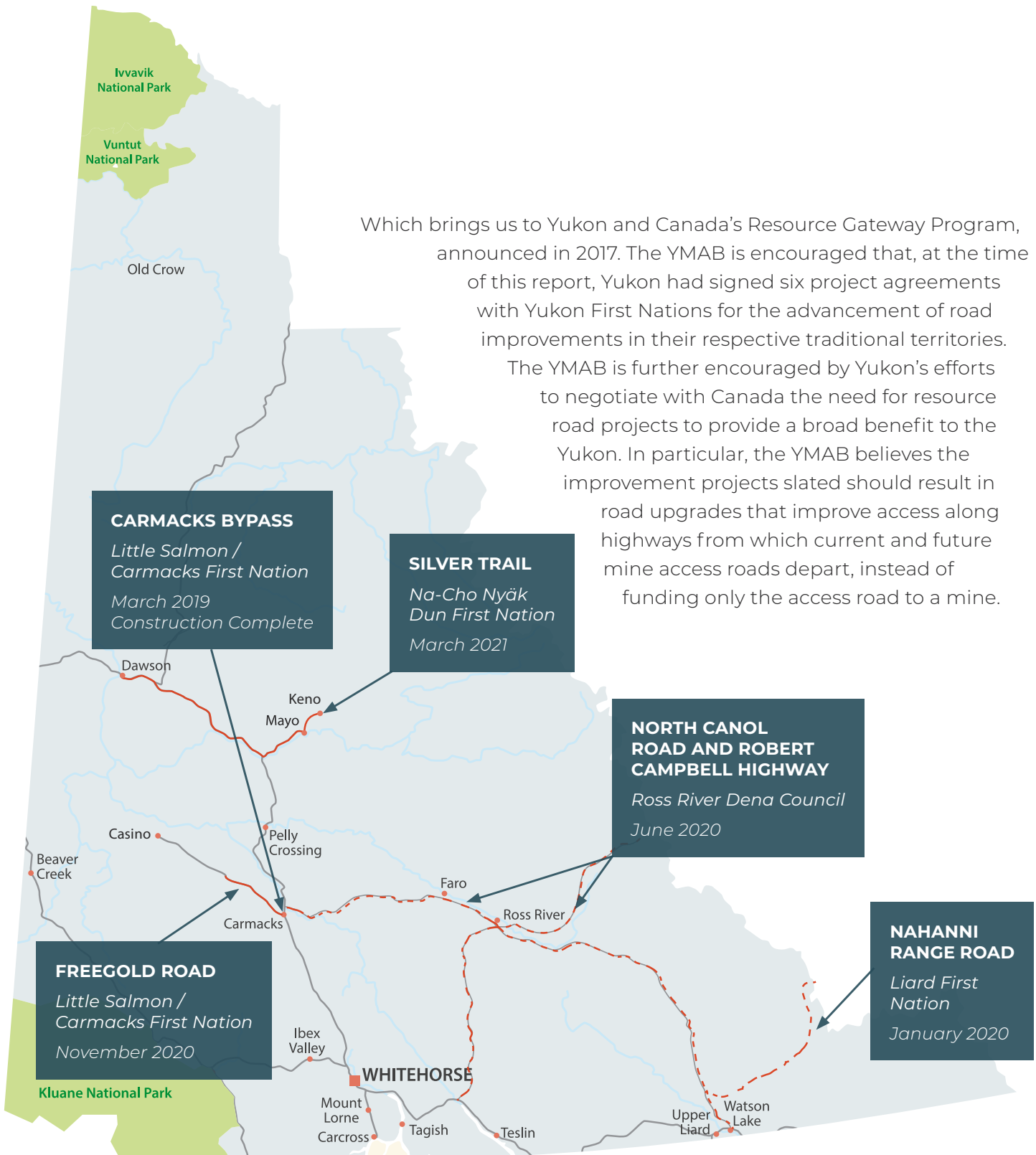
Road improvements and aerodrome operation should be influenced by natural resource projects but must broadly benefit all Yukoners

The origin story of Yukon's Road network is of infrastructure built to access to resources. Starting with the trading trails of First Nations, to the Overland Trail that was the precursor to the Klondike Highway, then the Alaska Highway to provide fuel resources for strategic military purposes, and on to the Roads to Resources initiative in the late 1950s and early 1960s, transportation infrastructure was developed to facilitate economic activity based on the trading and transport of resources.

The YMAB finds, though, that when we examine the true value of these resource road projects the economic impact was most greatly felt by our territory's residents as a collective. The expansion of the highway network and airports reduced costs of traveling between communities and, so, reduced costs of everything from food to fuel to maintenance. The development of aerodromes – in many cases alongside resource roads – provided access for exploration to then-remote corners of our territory, driving economic growth in these areas. In that way, road and aerodrome access that was ostensibly about reaching resources really provided a much broader benefit to Yukoners.



Credit: Victoria Gold



Which brings us to Yukon and Canada’s Resource Gateway Program, announced in 2017. The YMAB is encouraged that, at the time of this report, Yukon had signed six project agreements with Yukon First Nations for the advancement of road improvements in their respective traditional territories. The YMAB is further encouraged by Yukon’s efforts to negotiate with Canada the need for resource road projects to provide a broad benefit to the Yukon. In particular, the YMAB believes the improvement projects slated should result in road upgrades that improve access along highways from which current and future mine access roads depart, instead of funding only the access road to a mine.

Source: Government of Yukon



Credit: Alkan Air

The YMAB notes, however, that only one of the six agreements – the \$29.6 million Carmacks Bypass project resulting from the agreement between Yukon and Little Salmon/ Carmacks First Nation – has resulted in a road construction contract being executed and that it has been nearly two years since the most recent agreement was signed. Undoubtedly the COVID pandemic heavily impacted the ability to move some of these projects to construction.

But with funding sunseting by 2030/31, the YMAB is concerned this slow pace to construction may jeopardize these projects. More than seven years after the funding program was announced and three years after the funding agreement was signed, less than 10% of committed funding from Canada and Yukon has been spent on actual road construction in the Yukon.

The Yukon does not lack for suitable projects that could benefit from the Resource Gateway Program funding. The North Canal Road, the subject of one agreement between Ross River Dena Council and Yukon, urgently needs attention, as do sections of the Robert Campbell Highway. While major improvements are being made over certain stretches of the North Klondike Highway, there are still long stretches of both the North and South Klondike highways where upgrades are needed. This important connector to tidewater must be maintained not only to fully realize the benefits of Yukon's investment in the Skagway Ore Dock upgrades but also to support the exploding cruise tourism economy.

The Yukon does not lack for suitable projects that could benefit from the Resource Gateway Program funding.

Bridge upgrades along the Alaska Highway between Watson Lake and Whitehorse, including the major Nisutlin Bay project, have or will significantly improve the safety of that stretch of our highway network, but some like the Big Creek bridge are stalled and should be completed. Finally, the *New Building Canada Fund: National Infrastructure Component* (Canada's source funding for the Yukon Resource Gateway Project) identifies "local and regional airports" as eligible under this program.

The YMAB recommends that the Minister and his colleague at Highways and Public Works return, in earnest, to discussions with Canada on redirecting any uncommitted funding to improvement projects on major Yukon highways or at airports and aerodromes in the territory. The YMAB also recommends that the Minister prioritize establishing agreements with First Nation Governments to secure the time sensitive funding opportunities available. Letting funding expire because agreements are not in place would lead, in the YMAB's view, to missing critical opportunities for substantive infrastructure improvements in our territory. Signing agreements for infrastructure funding should be a priority for all governments as it will result in immediate and long-term benefits for all Yukoners. These must then be followed up with real and measurable action on the ground in the form of road upgrades and improvements.

Opportunity

3

Yukon's revenues for Yukon's infrastructure

To allow Yukoners to access the benefits of their resources, resource revenue must stay in the territory

Yukon is nearing a tipping point where an important decision must be made regarding how much benefit is derived by Yukoners from their natural resources. The YMAB acknowledges that as part of the New Minerals Legislation process, Yukon is evaluating the current royalties structure. But the YMAB wants to emphasize that without adjustments to fiscal transfers from Canada there will be no increased benefit to Yukoners from additional Quartz or Placer royalties. Our current transfer agreements with Canada constrain our ability to retain the inherent value of Yukon's natural resources for our residents.

Under Yukon's current agreement with Canada, collecting more than \$6 million in resource revenues in a fiscal year results in a penalty to Yukon through an equivalent deduction in its Territorial Transfer. Increasing mining royalties without a change in the structure of the current agreement would result in \$0 additional dollars being available to Yukoners. Changes to this aspect of the transfer agreements do not need to be (and should not be) deferred until the New Minerals Legislation is in place.

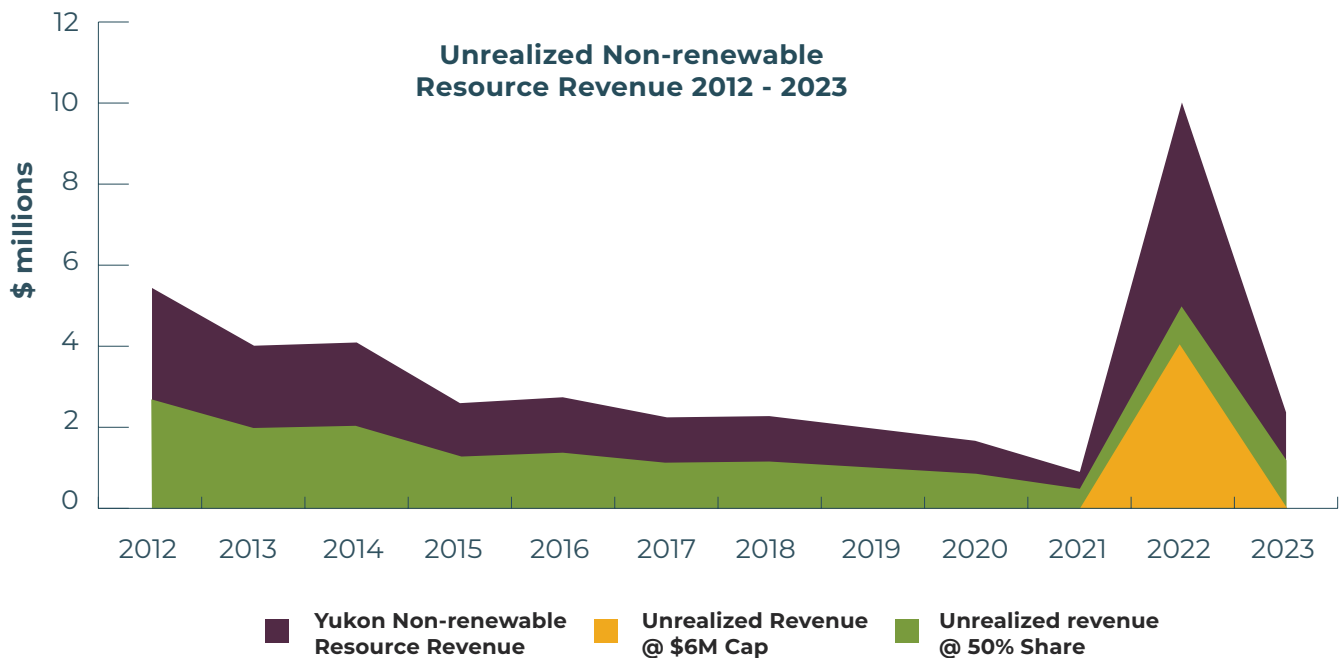
The *Yukon Mineral Development Strategy* (YMDS) recommended Yukon exercise its right under the amended clause 7.27.1.b. of the *Yukon Northern Affairs Program Devolution Transfer Agreement* to change its resource revenue sharing relationship with Canada,



Credit: YMA

suggesting this could allow Yukon to “keep...approximately \$54 million” in resource revenues. But this is an inaccurate portrayal of the outcome of this change because it overlooks the first part of this clause which states an offset will be “...the lesser of ...50 percent of Global Resources Revenue, and...5 percent of the YTG’s Gross Expenditure Base...”. In other words, under the scenario described by the YMDS, annual resource revenues would have to be more than \$108 million for Yukon to realize a \$54 million outcome.

In fact, Yukon resource revenues are not forecast to be greater than \$100 million anytime in the near future. In the 10-year period ending March 31, 2023, it only crossed the \$6 million threshold once, resulting in Yukon losing approximately \$4 million in Territorial Transfer revenue under the existing formula. Had Yukon entered into the percentage-based sharing model immediately upon signing the amended agreement in 2012, Yukon would have effectively lost a cumulative \$16 million in resource revenues from the first year of the revised agreement to the fiscal year ending March 31, 2023.



Source: Government of Yukon Statements of Public Accounts 2012 – 2023

Yukon should begin negotiating with Canada now to enter the same resource revenue sharing model as a Province where Yukon will keep 100% of all resource revenue generated in the territory.

Until resource revenues are consistently above \$12 million annually, the percentage based formula will result in Yukon receiving less revenue than under the existing \$6 million revenue cap. The YMAB commends the Minister, therefore, for not adopting the YMDS recommendation and recommends the Minister to go further.

Yukon should begin negotiating with Canada now to enter the same resource revenue sharing model as a Province where Yukon will keep 100% of all resource revenue generated in the territory. Even if resource revenues were to grow to the level the YMDS references, the current model acts as a disincentive for Yukon to encourage royalty regime changes and to permit new projects. Why would Yukon want to collect more resource revenues if that additional revenue is just going to get handed over to Canada? Where is the benefit to Yukoners through a reduced transfer – or a transfer subsidized by the extraction of its own natural resources? And how can Yukoners feel they are benefiting from their natural resource if they have little say in how resource revenues are spent?

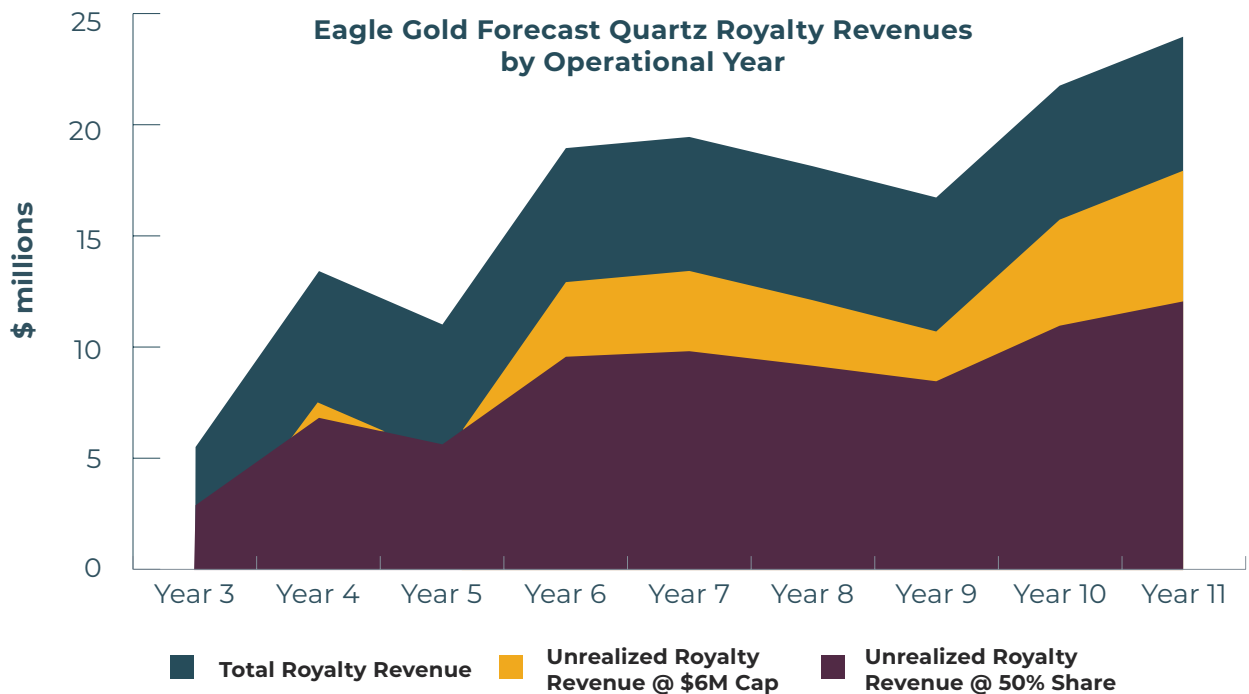
The YMAB argues that the impact to Canada of retaining millions of dollars of Yukon's resource revenues is negligible, whereas millions of dollars retained in the Yukon can and will have a significantly meaningful impact here at home. At 100% retention of mining royalty revenue, Yukon stands to gain nearly \$100 million in additional revenue from royalties paid by Victoria Gold Corporation's Eagle Gold Mine as compared to the current Territorial Transfer agreement. Larger projects like Western Copper and Gold Corporation's Casino (currently in the Assessment Phase) and BMC Minerals's Kudz Ze Kayah

(currently in the Regulatory Phase) could potentially deliver \$74 million and \$36 million, respectively, in average annual royalty revenues to Yukon. These are additional revenues that could fund important infrastructure improvements directly be it schools, bridges, roads and, even, electrical grids. Whatever the project, investment of mining royalties into infrastructure will be a visible signal to Yukoners of the benefits derived from the extraction of their natural resources.

Yukoners will benefit most from their natural resources if the revenues derived from those natural resources are spent directly in the territory. The current Territorial Transfer Formula caps that direct benefits to Yukoners and acts as a disincentive for our territorial government to grow own-source revenues through natural resources. It must change.



Credit: YMA



Source: Victoria Gold Corporation, assumes US\$1,750/oz AU

Opportunity

4

Permitting, an infrastructure improvement

Major infrastructure improvement is an urgent generational challenge. The regulatory environment needs to respond.

Legislation is a necessity of a well governed society. It creates the order in which we operate. But to achieve order, it must be effective, efficient, and responsive. Remove one or more of these traits and a paradox is formed where legislation may prevent society from adapting to changes so that order may continue.

In October, 2019, the Yukon declared itself in a climate emergency. In December, 2020, Yukon's *Our Clean Future* document was released as "the government's answer to the climate emergency." The goals described in *Our Clean Future* require Yukon to take significant and bold steps to reduce the Yukon's GHG emissions, including the increased access to electricity discussed earlier in our report. In the work being done to advance this, the legislative paradox described above has revealed itself: Yukon's response to the climate emergency is partially being restricted due to unresponsive environmental legislation that imposes lengthy permitting timelines on large infrastructure projects. In some jurisdictions this has been coined "Green Tape", a twist on the classic "Red Tape" label for excessive government bureaucracy that does nothing to improve environmental stewardship.



Credit: YMA



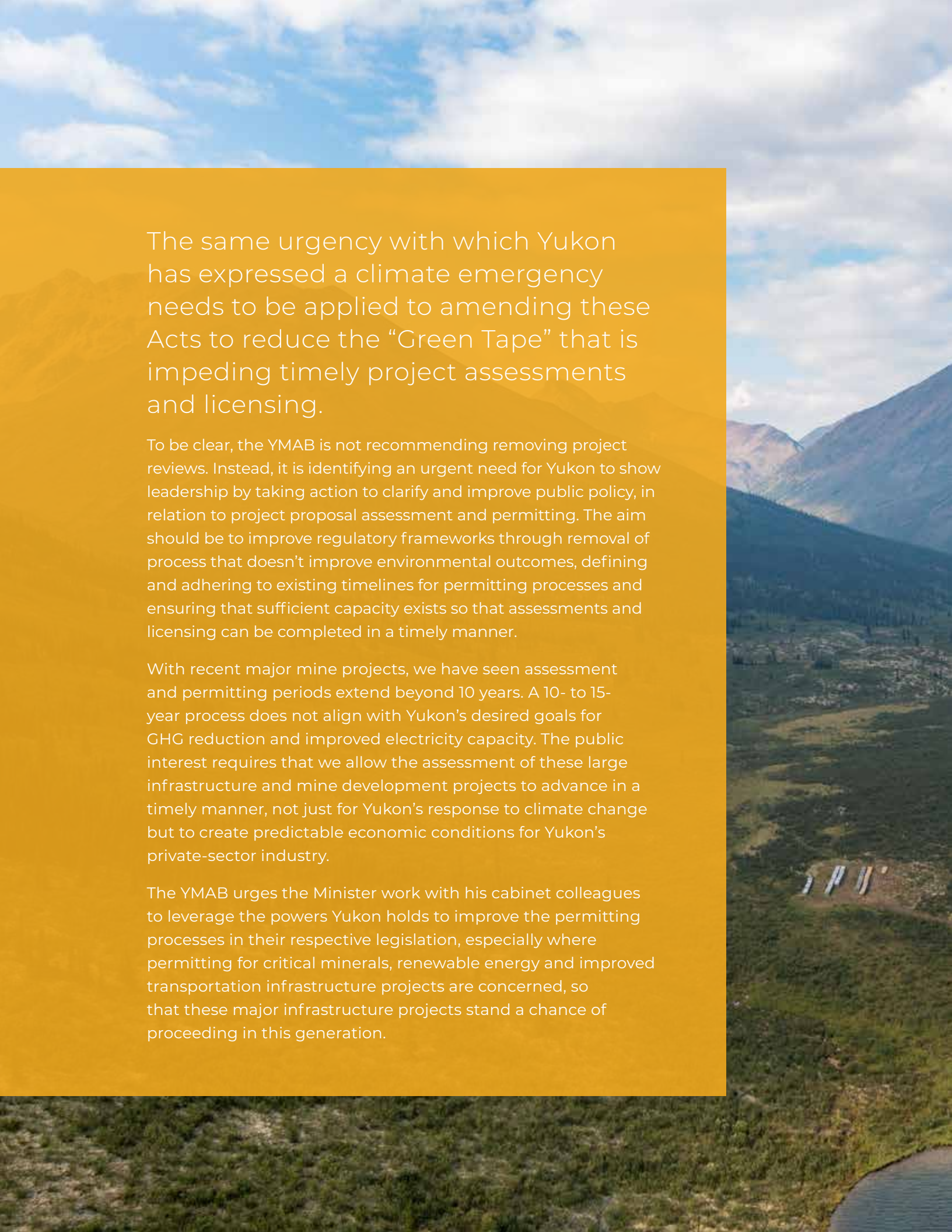
Credit: YMA

"Green Tape" is a result of a culture where excessive risk aversion during project assessment results in a focus on excessive and inefficient process rather than completing assessments and delivering timely outcomes. We must be vigilant in identifying and avoiding assessment delays caused by excessive assessment and approval processes that extend assessment and approval timelines while delivering no material environmental benefit. Such delays are not in the public interest.

Despite being identified as promising opportunities to increase renewable electricity generation for Yukon, with all the environmental positives that brings, projects like the Atlin

Hydro Expansion and the Moon Lake Pumped Storage Project face significant "Green Tape" to gain regulatory approvals for their connections to the Yukon grid. Even once First Nations grant approval to proceed in their traditional territories, the *Yukon Environmental and Socio-Economic Assessment Act* (YESAA) allows at least 16 months for review and issuance of a decision document by the Executive Committee of the Yukon Environmental and Socio-Economic Assessment Board (YESAB). If YESAB determines a project needs a Panel of the Board Review, or if YESAB Executive Committee returns to the applicant for more information, that timeline could be longer.

The YMAB acknowledges Yukon's duty to consult – and supports its desire to partner – with affected First Nations. It further understands that the YESAA is federal legislation, over which Yukon has influence but no direct control. But, as noted in prior YMAB annual reports, Yukon does possess the ability to streamline and improve environmental legislation such as the *Yukon Waters Act*, the *Yukon Environment Act*, the *Territorial Lands (Yukon) Act* and the *Yukon Wildlife Act*. Except the *Yukon Waters Act's* inclusion of certain timelines for completion of administrative reviews, completion of technical reviews and issuance of notices of public hearings, none of Yukon's environmental and land use legislation dictate timelines for issuance of final decisions on their respective permits. This makes it impossible for project proponents to determine when a permit may be issued, hindering project planning and harming the Yukon's attractiveness to potential investors, who seek clarity on project assessment timelines.

A scenic landscape of a mountain valley. In the foreground, there is a river flowing through a lush green valley. In the middle ground, a small settlement with several buildings is visible. The background features majestic mountains under a blue sky with scattered white clouds. The entire image is overlaid with a semi-transparent yellow rectangle on the left side, which contains the text.

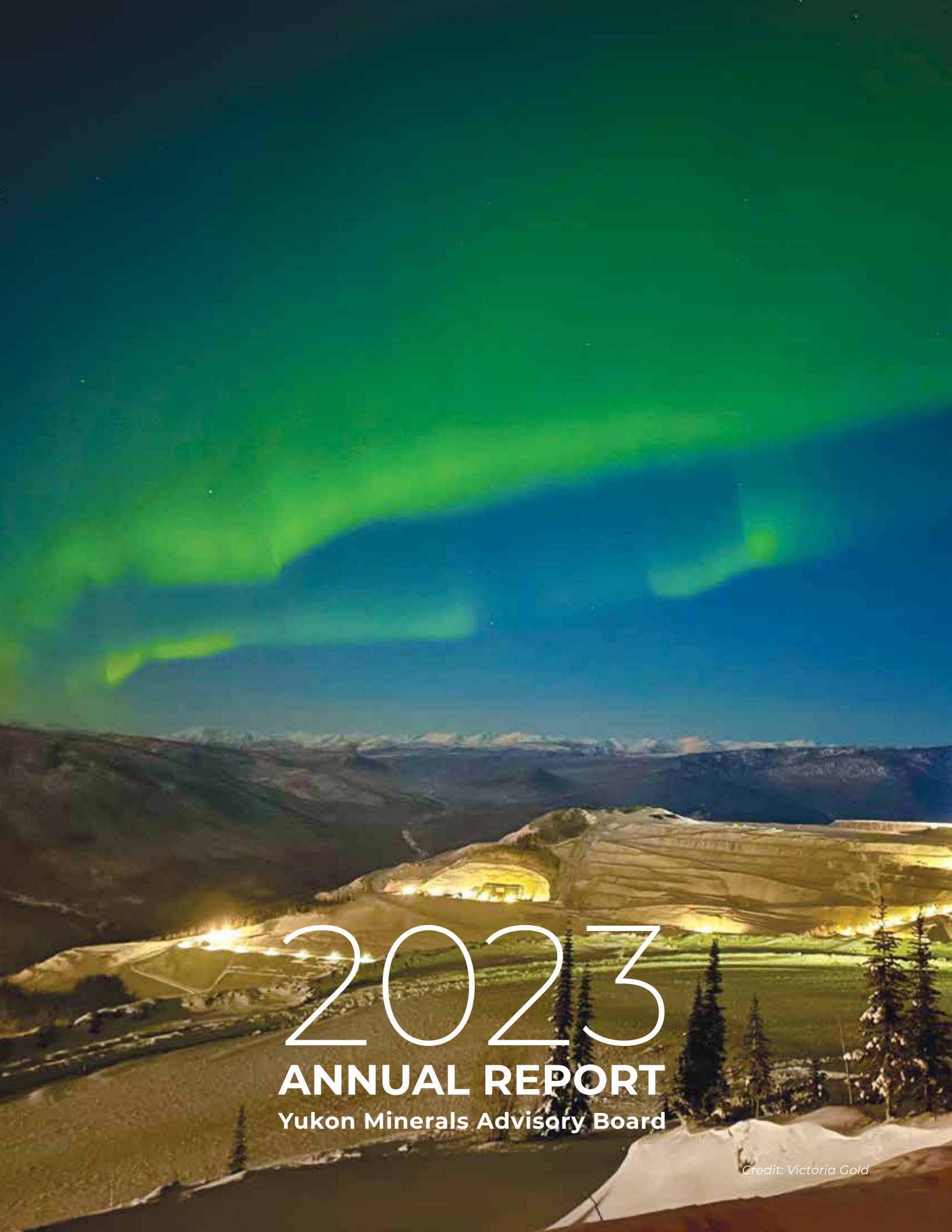
The same urgency with which Yukon has expressed a climate emergency needs to be applied to amending these Acts to reduce the “Green Tape” that is impeding timely project assessments and licensing.

To be clear, the YMAB is not recommending removing project reviews. Instead, it is identifying an urgent need for Yukon to show leadership by taking action to clarify and improve public policy, in relation to project proposal assessment and permitting. The aim should be to improve regulatory frameworks through removal of process that doesn't improve environmental outcomes, defining and adhering to existing timelines for permitting processes and ensuring that sufficient capacity exists so that assessments and licensing can be completed in a timely manner.

With recent major mine projects, we have seen assessment and permitting periods extend beyond 10 years. A 10- to 15-year process does not align with Yukon's desired goals for GHG reduction and improved electricity capacity. The public interest requires that we allow the assessment of these large infrastructure and mine development projects to advance in a timely manner, not just for Yukon's response to climate change but to create predictable economic conditions for Yukon's private-sector industry.

The YMAB urges the Minister work with his cabinet colleagues to leverage the powers Yukon holds to improve the permitting processes in their respective legislation, especially where permitting for critical minerals, renewable energy and improved transportation infrastructure projects are concerned, so that these major infrastructure projects stand a chance of proceeding in this generation.





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Credit: Victoria Gold