



August 15, 2023

Dear Conifex partner:

We are taking this opportunity to update you on our ongoing legal dispute with BC Hydro and the Government of BC and to share our response to the Province's request for input on the development of a cryptocurrency mining policy for BC.

In December 2022, through an Order in Council, the province of BC, working with BC Hydro, instituted a moratorium on new cryptocurrency mining projects gaining access to electricity in BC. The moratorium singled out four specific projects, including two in northern BC where we were working to develop next-generation data centers to service High-Performance-Computing operations.

The study and analysis in the attached White Paper which we produced, titled *BC's Lost Opportunity to Develop Next-Generation Data Centers*, concludes that any moratorium unnecessarily damages Indigenous and non-Indigenous residents of northern BC, BC Hydro customers, and all other British Columbians.

We never wanted nor expected to be in the position of having to defend our business interests in the courts, particularly after having had a mutually respectful and beneficial relationship with the provincial government and BC Hydro since the inception of our company. We continue to harvest in responsible and sustainable manners, we work hard to ensure the safety of over 400 employees and contractors, and we pay fair wages and benefits. Directly and on behalf of our employees, over the past two fiscal years alone, we paid or set aside \$70 million to fund government remittances.

In our court actions, we are not asking for any special treatment or relief from government remittances. Our goal is to overturn an action that prevents us from continuing to do what we have always done: employing people, doing business in an environmentally responsible manner, and investing in value-added initiatives to improve our competitive position relative to our global competitors.

Thank you for taking the time to read this letter, the Executive Summary, and the full report to acquaint yourself with all the reasons why we believe the provincial government and BC Hydro are not acting in the best interests of British Columbians.

Best regards,

Ken Shields

Chairman and CEO  
Conifex Timber Inc.

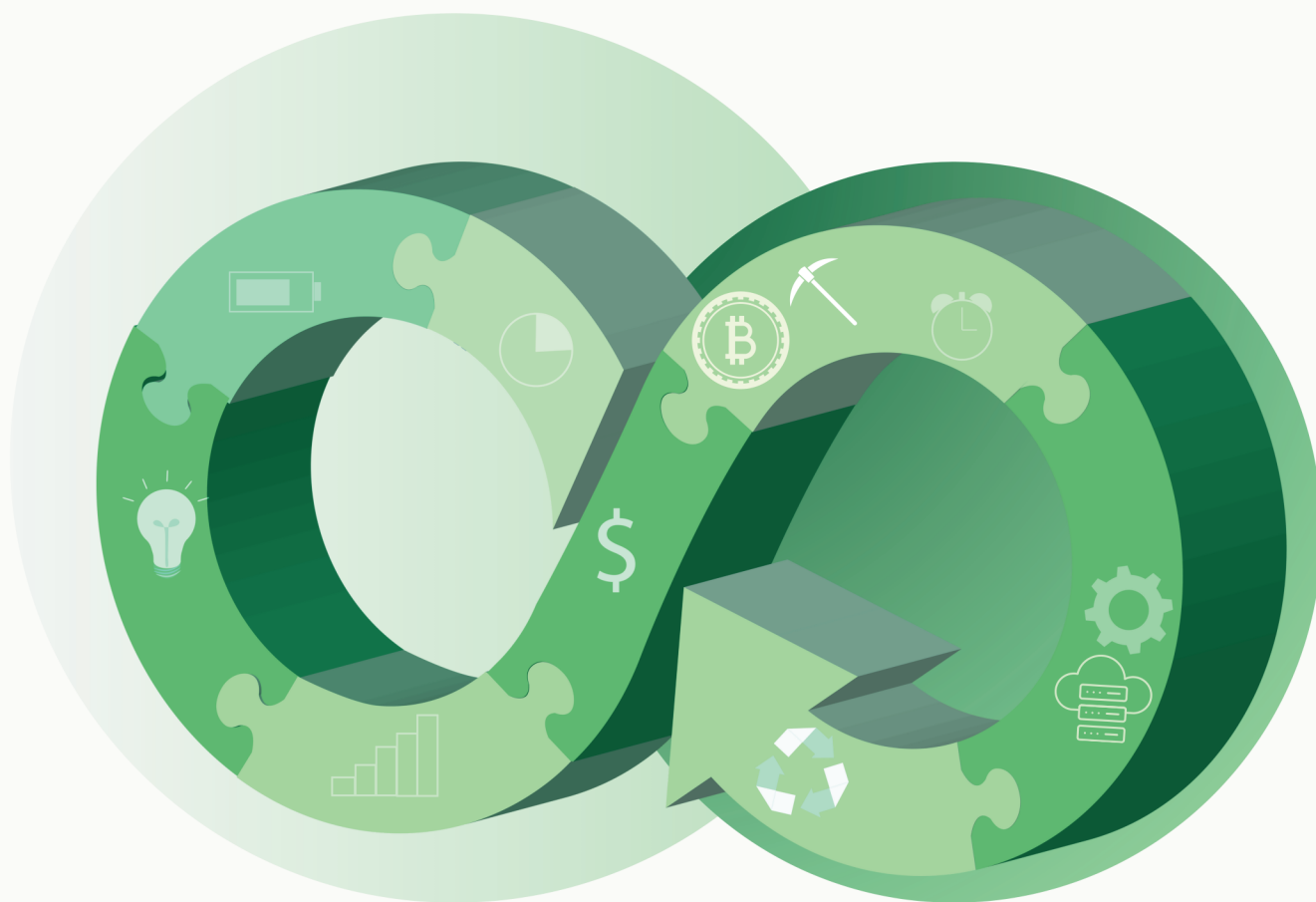
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# BC's Lost Opportunity to Develop Next-Generation Data Centers



**WHITE PAPER**  
AUGUST 2023



# BC's LOST OPPORTUNITY TO DEVELOP NEXT-GENERATION DATA CENTRES

## Executive Summary

In December 2022, the province of BC instituted a moratorium on new cryptocurrency mining projects gaining access to electricity in BC. The moratorium singled out four specific projects, including two projects in northern BC where Conifex was working to develop next-generation data centres to service High-Performance-Computing (HPC) operations.

The Ministry of Energy, Mines and Low-Carbon Innovation has requested feedback by August 18, 2023, on the process it has underway to develop a cryptocurrency mining policy in BC. This White Paper, titled *BC's Lost Opportunity to Develop Next-Generation Data Centers* summarizes Conifex's views on this topic. The White Paper concludes that any moratorium imposes heavy costs on residents of BC, including:

- Restrictions on value-added development opportunities in rural and hard-hit forest communities.
- Foregone Indigenous reconciliation opportunities.
- A chill on investment in BC, reflecting the risk of future arbitrary government policy actions.
- A general loss of economic efficiency and a stifling of innovation and employment.
- An undermining of regulatory integrity and independence.

The Conifex White Paper outlines the several ways in which the actions of the provincial cabinet contravene the law, interfere with the regulatory system, and in fact work against the government's own stated economic, carbon mitigation and reconciliation goals.

By taking a narrow view of next-generation data centres as simply cryptocurrency mining ventures, the moratorium also effectively prevents British Columbia from participating in the rapidly evolving digital payment system technology boom now underway. The moratorium limits the ability for developers and operators of advanced computing technologies, that all of us will increasingly rely on in our daily lives, from locating in our home province.

The moratorium runs contrary to the recommendation of the federal government's Standing Committee on Industry and Technology that the Government of Canada "should maintain that digital asset mining constitutes a commercial activity in Canada, and as such adopt a neutral and equitable position towards this new and growing industry." Instead, the BC government chooses to take guidance in its policy-setting from fossil-fuel-dependent developing countries in the Middle East and Africa, as well as China.

The White Paper confirms High-Performance Computing data centres are carbon-free in BC, given the electricity to run them comes from BC Hydro, which is 98% emissions-free. It also argues that data centres operating in northern BC do not consume power for cooling purposes; they rely on ambient air for cooling, which offers a competitive advantage to BC.

The White Paper then takes on BC Hydro's misleading "*Crypto Conundrum*" report and the current consultation process being run by the Province.

The White Paper points out that BC Hydro's significant power exports shift economic opportunities to out-of-province customers rather than prioritizing British Columbians. Furthermore, the amount of energy that is lost while being transmitted from northern BC to customers in the south of the province and to more distant export markets is significant. Simply put, more power supply is available in BC if BC Hydro focused on customers who can set up new businesses close to the source of power generation, which is exactly what Conifex plans to do.

The White Paper then highlights the many flaws in the biased consultation process currently underway that appears to have been designed to provide cover for a pre-determined outcome. The consultations are too narrow in focus, are premised upon numerous false and misleading statements, include little, if any, unbiased expert opinion, and stress the challenges presented by cryptocurrency mining with nominal consideration of the immediate and long-term socio-economic benefits. Furthermore, no consideration is given to the future benefits available from next-generation data centers locating in BC to capitalize on opportunities presented by the rapid growth in Artificial Intelligence. The process has also excluded experts and a wide group of interested parties.

The White Paper concludes that, by imposing the moratorium, the government has ignored the fundamental principle of obligation to serve the greater public interest. They have used the power of office to disadvantage one particular class of customers, as well as the customers' employees. In doing so, the government has established a precedent for having the provincial cabinet pick economic winners and losers, which is not any government's job.

**Alternatively, were the government to allow Conifex and others to develop HPC data centres, it would be:**

- **Driving sustainable, environmentally responsible development.**
- **Bringing high-paying jobs and technology training to areas where it is most needed.**
- **Growing tax bases in BC.**
- **Strengthening the foundation for First Nations reconciliation; and**
- **Providing a foundation for more modest rate increases to be imposed by BC Hydro.**

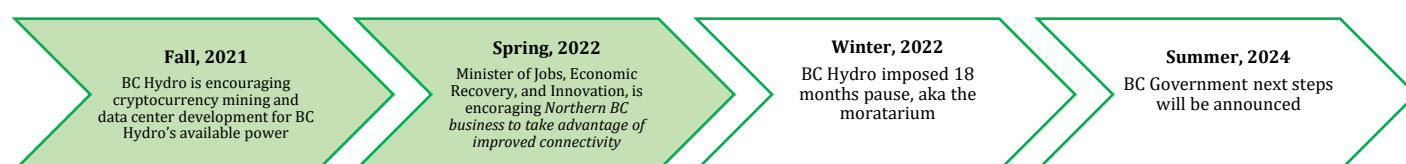
## BC's LOST OPPORTUNITY TO DEVELOP NEXT-GENERATION DATA CENTRES

### Background

In December 2022, through an Order in Council (**OIC**), the province (**Province**) of British Columbia (**BC**), working with the British Columbia Hydro and Power Authority (**BC Hydro**), instituted a moratorium on new cryptocurrency mining projects gaining access to electricity in BC. The moratorium singled out four specific projects, including two projects in northern BC where Conifex Timber Inc. ("**Conifex**")<sup>1</sup> was working to develop data centers to service and support High-Performance-Computing (**HPC**) operations. The study and analysis in this report conclude that the moratorium is not in the best interest of Indigenous and non-Indigenous residents of northern BC, BC Hydro's customers, nor British Columbians at large.

### The Province Encouraged Conifex to Develop Data Centers

We wish to explain how we committed to a business plan that fully complied with the provincial government's stated objectives, only to have the rug pulled out from underneath us 13 months later.



In the fall of 2021, BC Hydro, the agent for the provincial government<sup>2</sup>, made slide presentations<sup>3</sup> to interior BC mayors and local government officials encouraging them to help find customers for BC Hydro's available power by acting as catalysts to encourage cryptocurrency mining and data center development. Besides power, next-generation data centers require robust and reliable internet access. On March 16, 2022, then Minister of Jobs, Economic Recovery, and Innovation, Ravi Kahlon provided additional encouragement by publicly stating there are *"huge opportunities in Northern BC from improved connectivity"* capable of *"supporting communities that are looking to diversify their economy."*

With this encouragement from the provincial government and after securing support from the local government and unionized labour, Conifex commenced building a complimentary business servicing HPC operations. The new business capitalizes on Conifex's successful record designing, constructing, and operating large scale electric power infrastructure at Mackenzie, BC. The foundation of the new business was the utilization of the power immediately available and deliverable in northern BC to support new, next-generation data centers targeting national and international, industrial-scale, HPC operators.

Conifex hosted an initial 1.5 megawatts (**MW**) of capacity in December 2021 on a trial basis and an additional 1.5 MW of capacity in early March 2022. The trial confirmed that Conifex has an agile and multidisciplinary team of experienced professionals with demonstrated ability to leverage their deep backgrounds in power, technology, and capital project design and execution to successfully launch a new business servicing HPC operators. The trial also enabled the Conifex power and corporate teams to gain valuable input required to develop a path forward to significantly scale HPC operations.

Once Conifex, working with representatives of BC Hydro, fully complied with BC Hydro's service eligibility requirements, Conifex requested electricity service at two northern BC locations, which locations had, in fact, been identified by BC Hydro for the purpose of HPC operations. BC Hydro advised us we were 'first in the queue' at these two locations with immediate power availability.

## The Rug Was Pulled Out From Under Us

Thirteen months after BC Hydro was publicly encouraging the development of new businesses capable of improving the economic resiliency of interior BC communities, and privately encouraging Conifex to pursue the two HPC projects in northern BC, the Province, working with BC Hydro, imposed the moratorium. Conifex was not given prior notice nor any advance opportunity to communicate its concerns. Furthermore, the OIC prevented Conifex from seeking recourse from BC Hydro's regulator, the British Columbia Utilities Commission (BCUC).

## The Moratorium is a Massive Overreach by the Provincial Cabinet

Simply put, the moratorium sets a precedent for converting BC Hydro's transmission system interconnection protocol into a popularity contest and giving the provincial cabinet the ability to pick winners and losers.

The law is clear. BC Hydro has an obligation to serve all customers.

**In a letter dated February 8, 2022, BC Hydro Board Chair Doug Allen advised the CEO of Conifex:**

***"BC Hydro's legal obligation to provide non-discriminatory service is the reason that BC Hydro's queue is based on a "first come, first served" approach. BC Hydro is not able to differentiate between customers who meet the requirements set out in our tariffs, even if the service of one customer might better achieve the objectives of the province."***

**BC Hydro's standard tariffs for transmission system interconnection cannot discriminate based on end use service, location, or service duration. Accordingly, BC Hydro is obligated to provide service to all customers who request service, including diversified forest products companies like Conifex.**

Conifex's legal advisors concluded that, among other reasons, the process by which the moratorium was imposed is not legally valid because the provincial cabinet does not have the power to fundamentally alter BC Hydro's decades-long obligation to supply power to all British Columbians who request service. The BCUC and BC Hydro have regulatory protocols in place for managing the future supply/demand balance on the power grid in BC, which is typically referred to as the **"load-resource"** balance. The provincial cabinet cannot suddenly offload the BCUC's and BC Hydro's joint responsibility to maintain an appropriate load-resource balance to customers arbitrarily selected by the provincial cabinet.

## BC Will Miss Out on the Technology Boom Now Underway

BC Hydro and the provincial cabinet are so narrowly focused on cryptocurrency mining that they are not seeing the full picture. They do not understand how modern payment and record keeping systems, based on blockchain technology invented in 2008, are rapidly evolving and taking market share from payment systems hosted by traditional financial services providers. The launch of this newly emerging sector of the global economy can be traced back to a 2008 white paper published under the pseudonym Satoshi Nakamoto. The first line of the white paper abstract references *"A purely peer-to-peer version of electronic cash that would allow online payments."* With this clear statement of purpose, we do not understand why the Province remains laser focused on the cryptocurrency mining slice of the much larger and rapidly growing electronic payment systems pie. Recent estimates reveal that 13% of Canadians own at least one type of crypto asset and 420 million people own crypto globally.

Presently, global transactions in Bitcoin exceed the volume of American Express transactions, although they continue to lag Visa and Mastercard transactions. Since Visa and Mastercard had more than a five-decade head start on Bitcoin, this achievement is solid evidence of the high adoption rates for digital currency payment systems.

A Senior VP and Global Head of Regulatory Advocacy at Mastercard was recently quoted saying blockchain has “the potential to transform how information is shared and value gets moved.”

In June 2023, the former Governor of the Bank of Canada, and former federal deputy minister of finance, David Dodge, published an article in the *Globe and Mail* under the headline “Canada’s outdated banking and payments system costs consumers greatly.” He commented that:

***“a modern, real-time payments system, which several other countries have, would allow for the exchange, clearing and settlement of payment to happen immediately. A new payment system would also offer security for transferred funds, be available 24/7 and have lower usage costs, allowing customers and businesses to manage their cash more effectively. More importantly, the system would allow for much more information to be shared with the payment, like its purpose and frequency, which could help drive competition and innovation in the Canadian economy.”***

Although the Province acknowledges that cryptocurrency mining takes place at data centers, the Province does not understand that the effect of the moratorium is to impose a ban on our ability to build next-generation data centers to support a broad range of digital currencies and evolving payment systems based on blockchain technology. In terms of the data center infrastructure we intend to build and the technical expertise we intend to employ, we would more closely look to resemble data centers operated around the globe by firms such as Amazon, Google, and Microsoft. One difference is that we have added potential to provide digital infrastructure solutions for new applications such as artificial intelligence and machine learning<sup>4</sup>.

We do not understand why the provincial cabinet is discriminating against a BC company pursuing value-added opportunities in the forest sector. Why is BC Hydro allowed to continue exporting power to jurisdictions where cryptocurrency mining operations continue to be built and expanded? Why is BC Hydro allowing cryptocurrency mining to be introduced at existing data centers in BC when Conifex cannot team up with HPC operators who wish to locate in northern BC? Besides stifling innovation and employment in northern BC, the moratorium is clearly discriminatory.

### **Industry Experts and Federal Government Representatives Understand the Opportunity**

In June 2023, the Standing Committee on Industry and Technology of the House of Commons released its report titled *BLOCKCHAIN TECHNOLOGIES: CRYPTOCURRENCIES AND BEYOND*. Over a period of nine months, 30 Members of Parliament heard from 30 witnesses and reviewed six briefs. The key recommendation from this broad cross section of elected officials and industry experts is:

***“That the government of Canada, to foster a competitive digital asset mining environment and to continue to attract investments, should maintain that digital asset mining constitutes a commercial activity in Canada; and as such adopt a neutral and equitable position towards this new and growing industry.”***

To avoid falling behind other regions in Canada, the provincial cabinet should ensure that prospective power customers in BC are treated in the equitable manner recommended by the federal committee and that has historically characterized BC Hydro’s protocol for the delivery of new electricity service. There is no need for the provincial cabinet to, in our opinion illegally, infringe on BC Hydro’s customer service and associated load-resource management obligations.

### **How did Manitoba and BC Justify their Moratoriums?**

On November 28, 2022, Manitoba Hydro imposed a moratorium on cryptocurrency interconnection requests. BC Hydro took similar action on December 22, 2022. Manitoba reported that it had received 240 requests for



interconnection aggregating 4,600 MW of new supply, equivalent to a whopping 75% of its existing capacity. BC Hydro reported that it suspended requests for 1,403 MW of supply, equivalent to a far more manageable addition of just over 10% of its capacity upon completion of Site C.

Manitoba Hydro's November 28, 2022, press release stated: "*BC Hydro is considering a similar approach, with a potential moratorium on providing power to the crypto industry for 18 months while the BC government considers its options.*"

**It was a shock and extremely disheartening to all of us at Conifex to learn that BC Hydro would share advance information about a moratorium with Manitobans but not with its BC customers.**

It was unusual that the two collaborating power suppliers did not disclose the results of any analysis they conducted to evaluate the legitimacy of the requests they received for power supply from cryptocurrency miners. The facts are that 6,000 MW of combined requests in the two provinces would require the purchase and installation of two million new specialized computers. Given global manufacturing capacity, a few years of flat-out global production would be needed to supply this number of computers. Approximately \$12 billion of new investment in computers and data center infrastructure would also be required, an amount much greater than the aggregate funding available to the global cryptocurrency mining sector. Any objective analysis of the requests would have concluded that it was practically impossible for the power requested in the two provinces to materialize over a three-to-five-year period.

BC Hydro has not disclosed how many of the requests for interconnection service that it received were from *bona fide* customers, how many requests were from operators with inadequate resources and funding to develop data centers, or how many multiple and/or duplicate requests it received. There is little doubt that the low cost of and simple process of submitting an application to apply for service led to many requests from outsiders that had little to no chance of materializing.

### **The Moratorium does NOT Comply with Premier Eby's Objectives**

In his most recent Mandate Letter to the Minister of Forests, Premier Eby set out these foundational objectives:

- *"A strong sustainable economy that works for everyone."*
- Building and hosting *"the clean, innovative economy of the future."*
- *"Getting people back to work."*
- *"Training the workforce of tomorrow."*

The Premier's Mandate Letter also emphasizes the need to work *"towards true and lasting reconciliation by supporting opportunities for Indigenous Peoples to be full partners in the inclusive and sustainable province we are building together."*

**The new business Conifex is developing aligns perfectly with the Premier's foundational objectives. Accessing power from a monopoly power provider is the oxygen Conifex requires to comply with the Province's nation-leading objectives for environmental sustainability, advancing First Nations reconciliation, developing innovative employment opportunities, and pursuing value-added forestry initiatives. The moratorium denies Conifex the electricity it requires to create and maintain new employment opportunities for Indigenous and non-Indigenous residents of northern BC in a future-focused industry at compensation levels that are well above the average presently achieved across the region.**

The stated initiatives underway by the Ministry of Environment, Mines and Low Carbon Innovation (**Ministry of Energy**) conflict with the objectives of the Ministry of Forests. The Ministry of Energy ostensibly wishes to retain



electricity for the re-powering of current fossil-fuel equipment in BC. In our opinion, even if that is the case, re-powering existing demand should not be a substitute for supplying electricity that advances economic growth and opportunity. BC Hydro's obligation is to plan for and meet the needs of all British Columbians that require electricity. Rationing growth to further purely environmental objectives, if required at all, must be the work of careful policy choices, not the random denial of service to a BC forest company by the provincial cabinet.

**We cannot understand the reasoning behind the provincial cabinet's sudden pivot to the technologically regressive, no-growth agenda that is the inevitable result of the moratorium.**

### **The Moratorium Undermines Revitalization at Hard-Hit BC Forest Communities**

We believe the moratorium is invalid and enacted in contravention of BC law. Notwithstanding, the moratorium, in its current form, will prevent Conifex, a forest products company, from moving forward on two value-added projects designed to strengthen and diversify the interior BC economy.<sup>5</sup>

Premier Eby's December 2022 Mandate Letter to Forest Minister Ralston states that the forest sector *"has never been under greater stress"* because of the *"Loss of essential forests to mountain pine beetle, unprecedented forest fires, inadequate land use planning by previous governments, unfair softwood lumber tariffs in the United States, and the unchecked export of raw logs ..."*. The factors stated by the Premier are supported by the fact that the provincial harvest in BC for the seven-month period ended July 31, 2023, was 22.2 million cubic metres. The harvest level was 33% higher in the year earlier seven-month period and 55% greater in the seven-month period ended July 31, 2021.

Against this backdrop, we cannot help but wonder if any legitimate increase in the demand for power from cryptocurrency miners in BC would be largely offset by declining demand from the forest sector. While we do not believe that all of the new demand expressed by cryptocurrency miners could materialize, even so it would represent just over 10% of BC Hydro's capacity upon completion of Site C. The sharp contraction presently underway in the scope and scale of BC's forest sector causes us to believe that ample power supply is now being freed up for alternative uses.

BC Hydro's 2023/24 –2025/26 Annual Service Plan released in January 2023 supports the above scenario.

**How can the provincial cabinet justify imposing a service moratorium in December 2022 and, one month later, BC Hydro's CEO and its Board Chair issue a joint letter outlining the need to *"attract new innovative industries to BC."* The HPC data centers Conifex intends to develop certainly qualify as new and innovative since the operators we are looking to partner with participate in an extraordinarily secure electronic cash payment system that is a product of leading-edge computer science and software engineering.**

### **Cryptocurrency Mining Is Carbon-Free In British Columbia**

Other than being an attempt to sway public opinion in BC, we cannot understand why agents of the Provincial government publish statements like this: *"Running computers and supporting systems in cryptocurrency mining operations has an environmental impact. In 2022, it was estimated that global carbon dioxide emissions from crypto-asset mining were 110 – 170 million metric tons..."* BC Hydro reports that approximately 98% of its generation is renewable and emission-free. Because the HPC data centers Conifex plans to build and operate consume electricity purchased from BC Hydro, carbon emissions are similarly low. HPC data centers themselves do not emit carbon dioxide nor any other pollutants. Unlike many other industrial facilities served by BC Hydro, no other effluents or sources of waste are produced that must be disposed of on-site.

## Apples to Oranges Comparison are Purposefully Misleading

We understand this statement: *“It has been estimated that the annual global electrical usage from the Bitcoin blockchain is between 90,000 – 145,000 gigawatt hours (GWh) per year.”* We cannot understand why agents for the Province go on to say this is *“equivalent to the annual electricity consumption of many countries such as Norway and Ukraine...”*.

Comparing an industry’s power demand with nations is simply an attempt to sway public opinion through distortion. The latest figures indicate that global electrical usage is around 23 terawatt hours annually, which means that cryptocurrency blockchain usage represents about one-half of one percent of global electricity consumption. The facts are that numerous industries consume several times more than one-half of one percent of the power produced in the world.

Cryptocurrency mining is not causing the Province to fall short of its CleanBC goals. Notwithstanding, if environmental considerations are the primary concern, certainly good environmental watchdogs would not turn a blind eye to industries that are far heavier GHG emitters than cryptocurrency mining. Yet for some reason the Province singled out supporters of the Bitcoin blockchain, a technology that is unmatched in its ability to provide banking services to 1.28 billion people in the world who are unbanked – 57% of them are women and 90% are people of color. For example, in Afghanistan alone, 8.1 million women are prohibited by law from opening a bank account, starting a business, or receiving an income because of their gender.

**Consuming one-half of one percent, or 0.5% of global power strikes us as a reasonable cost to incur to capture the savings and other benefits of new global payments, record keeping and data management systems. The latest figures indicate that the Bitcoin blockchain uses slightly more power than Christmas lights and slightly less power than clothes driers<sup>6</sup>.**

## What Alternatives to a Moratorium Were Considered?

The Province has published its *Policy Approaches Playbook* (the **Playbook**) that outlines who has the authority to make policy decisions and states that an accompanying *“Cabinet Operations toolkit is a critical resource for policy analysts to understand the analysis and information required before the government makes a policy decision.”* The Playbook discloses that *“A full range of options, including non-regulatory options, should be explored before identifying the best possible option for achieving the desired outcomes.”* The Playbook adds:

*“When developing new or amending statutes, regulations, and associated policies and forms, how to achieve the greatest net benefit and the lowest cost to affected groups must be evaluated to minimize compliance burdens on people, business and government.”*

**In its rush to pass the OIC, the provincial cabinet failed to disclose what alternative courses of action, if any, other than the moratorium were considered and the reasons why other alternatives were not implemented. Too little information has been made available to determine whether the provincial cabinet completed the rigorous due diligence process required to justify the imposition of any moratorium or whether the government simply acted with political expedience and decided to ignore BC Hydro’s legal obligation to serve customers.**

## The Province has Overestimated the Growth in Electricity Demand

In the following sections, we counter the Province’s unfounded claims regarding the growth in electricity demand from cryptocurrency mining and present two alternatives to a moratorium capable of producing superior outcomes for British Columbians.

BC Hydro asserts “that cryptocurrency mining has several drawbacks, including the potential to use exponential amounts of electricity.” Unless this is a purposeful attempt to mislead the public, statements like this suggest that the analysts at BC Hydro and the Ministry of Energy do not possess the knowledge necessary to understand how enabling development of a digital assets payment business in BC helps the Province achieve its socio-economic and environmental objectives. The truth is:

- There is nothing about cryptocurrency mining technology that requires the consumption of increased energy over time.
- BC Hydro falsely states that the data centers in which Bitcoin mining computers are housed “require enormous amounts of cooling to keep the computers from overheating, which only adds to the energy demand.” Data centers operating in northern BC do not consume power for cooling purposes; they rely on ambient air for cooling, just like data centers located in Quebec, Iceland, northern Norway, and Sweden. The Province needs to recognize that northern BC’s relatively cool year-round climate minimizes the heat from computers and is a powerful source of competitive advantage for attracting national and international operators to next-generation data centers located in BC.
- There is a finite supply of Bitcoin, the dominant cryptocurrency. To manage this finite supply, Bitcoin token issuance is pre-programmed to taper off, falling by one-half every four years. Going forward there will be diminishing economic incentives to mine Bitcoin, which explains why many data centers that initially focused on cryptocurrency mining are now transitioning their business model to attract HPC operators.

For the above reasons, BC Hydro’s “exponential” power usage assertion does not hold up. A leading cryptocurrency industry association in the US suggests that power usage in Bitcoin mining could peak in the next few years and decline thereafter.

### Minimizing Line Losses Benefits British Columbians

BC Hydro has a major challenge because most of its domestic and all export customers are located long distances from the source of generation. BC Hydro discloses that line losses and internal consumption presently amount to 5,000 GWh annually which happens to equal the new power supply available when BC Hydro’s \$16 billion Site C project comes on stream. BC Hydro customers will be disheartened when their power rates increase to enable BC Hydro to achieve a payback and financial return on this \$16 billion investment. BC Hydro also projects that its line losses will increase over the next three years by an amount that eats up 25% of the 3,000-gigawatt hours of new supply from the recently announced call for additional power.

**Against this backdrop, we question why the provincial cabinet did not request BC Hydro to take steps to minimize line losses as an alternative to a moratorium. We further question whether BC Hydro’s board members, who are ultimately tasked with managing the business and affairs of BC Hydro, have required management to explore alternative business models that favour domestic consumption to eradicate or reduce the unnecessary waste associated with long-distance energy supply. Fortunately for BC Hydro and all British Columbians, HPC data centers have an attribute that sets them apart and enables BC Hydro to capture additional revenue by selling power that would otherwise be wasted through line losses.**

HPC data centers can make effective use of power available in remote locations close to the source of generation. At the risk of oversimplification, the highly skilled workforce we plan to employ and the modern data center infrastructure we plan to build and operate will enable power to be consumed closer to the source of generation. The digital products produced at these sites are then transported over the Internet. This means BC Hydro has less need to transport electricity to distant locations over transmission lines which are expensive to build and lead to line losses. HPC data centers often act as an energy buyer in underdeveloped locations far away from major population centers where no other customers seek access to power.<sup>7</sup> The additional revenue and profit available from selling power to HPC data centers help drive down the power rates BC Hydro needs to charge its existing

customers. This begs the question of whether the provincial cabinet or the BC Hydro board fully considered how the location-agnostic advantages of cryptocurrency mining can lower power rates in BC and are a superior alternative to a moratorium.

### Prioritizing Local Consumption over Power Exports Benefits British Columbians

The Ministry of Energy states: *“Presently, BC Hydro sells surplus energy to Powerex. Doing so increases BC Hydro’s total revenues and helps keep rates low for British Columbians.”* We can understand the potential for Powerex’s energy trading and arbitrage activities to contribute to lower rates, but we do not understand how, nor do we believe that power exports deliver the same economic and social benefits to British Columbians as domestic sales.

**Here are three reasons Conifex believes local power consumption should be prioritized over exports:**

- 1. As outlined in the previous section, avoiding line losses means that BC Hydro can deliver and be paid for more units of power selling to local customers than export customers. To put it in perspective, BC Hydro’s line losses and internal consumption currently represent 5,000 GWh annually, which equals the new power supply available when BC Hydro’s Site C project is complete. Because Site C’s estimated cost is \$16 billion, we can extrapolate that there is currently \$16 billion of redundant energy infrastructure in British Columbia that is required just to compensate for existing line losses. This does not include the estimated further line losses which are expected to increase over the next 3 years;**
- 2. BC Hydro’s financial statements and financial projections clearly indicate that domestic sales produce higher profit margins than export sales; and**
- 3. The most important reason is that when power is consumed in BC, it drives economic opportunity, helps grow employment and tax bases, and in our case, forms a foundation for reconciliation.**

By providing green power to British Columbians, the Province obtains numerous societal benefits without any incremental contribution to BC’s carbon footprint. This is a far better use of BC’s available power than exporting low-priced power and economic opportunity to Alberta<sup>8</sup> and the US. BC Hydro board members, the provincial cabinet and BC Utilities Commission must recognize that BC Hydro’s export-centric energy model is sub-optimal, costs all British Columbians and must be revamped.

**Just as British Columbians benefit from limitations on the export of raw logs, limitations on power exports will provide similar benefits.<sup>9</sup>**

### BC Hydro’s *Crypto Conundrum* Report is Misleading

BC Hydro’s *Crypto Conundrum* report provides little decision-useful information of value for policymakers. It provides an inaccurate and incomplete portrait of a complicated new technology. The following statement, among others, from the report is misleading: *“Currently, China, Egypt, Iraq, Qatar, Oman, Morocco, Algeria, Tunisia, and Bangladesh have all banned cryptocurrency mining because of concerns related to the environment, energy demands and the economy.”*

Let us first deal with the reference to *“concerns related to the environment.”* The facts are that BC Hydro’s system is 98% clean, so the GHG impact from supplying power to cryptocurrency mining operations at newly constructed data centers in BC is virtually nil. In contrast, the moratorium forces cryptocurrency miners to migrate to jurisdictions where electricity is wholly or partially sourced from fossil fuels. It follows that any moratorium on cryptocurrency mining in BC negatively impacts carbon emissions on a global basis. The Province has not acknowledged this full-frame perspective.

Let us next deal with the reference to China. Knowledgeable industry participants in digital currencies understand that the main reason China’s Communist Party banned digital currency mining is that it did not wish to have a

global digital currency competing with the central bank digital currency currently being rolled out, which can be utilized to monitor the behaviour of its citizens. We do not understand why our provincial cabinet chose to adopt features of China's authoritarian playbook to justify the abandonment of the long-standing practice of serving new BC Hydro customers on a first-come first-served basis.

Four of the other countries (Qatar, Algeria, Bangladesh, and Tunisia) cited in support of the moratorium are 95% to 100% dependent on fossil fuels for electricity supply while Morocco and Egypt are 80% to 90% dependent on fossil fuels. Six of these countries generate electricity on a per capita basis at 3% to 15% of the level generated in Canada. None of these jurisdictions are at the forefront of environmental or power industry leadership, and, in fact, quite the opposite is true. Conifex does not understand why the Province chose to follow the lead of governments with entirely different power usage and sourcing metrics compared to BC.

The *Crypto Conundrum* document fails to disclose that at least eight states in the US as well as the province of Alberta have embraced new blockchain technology and mandated a level playing field to position them to capture the benefits flowing from new investment, job creation, economic diversification, and technological innovation.

### The Consultation Process is Flawed

The Province justifies the moratorium to provide time for the development of a permanent Cryptocurrency Mining Policy that “considers public interests, the interests of BC Hydro, and cryptocurrency operators” which we define as the “Consultation Process.” We are not aware of any convincing evidence that governments know how to pick winning technologies. Deciding which innovations to support, where appropriate at all, should be left to arm's-length institutions with expert review processes and should be designed to deliver tangible benefits for taxpayers. The so-called Consultation Process now underway falls well short of the standard that British Columbians are entitled to and deserve when new province-wide economic policies are being designed and implemented.

### Our Overarching Concern

Our main concern is that the subject matter of the Consultation Process – the development of a Cryptocurrency Mining Policy – is an inaccurate depiction of what is really at stake. BC Hydro and the Ministry of Energy imply that mining is nothing more than consuming significant amounts of electricity to earn cryptocurrency tokens. In fact, mining is an essential process that allows the blockchain network to remain trusted, open, and decentralized. The rewards are nothing more than the payment needed to cover the costs participants incur to maintain the reliability of the global transfer of digital assets and to verify the legitimacy of every transaction recorded on the blockchain.

**We have already explained how a cryptocurrency mining moratorium has the effect of halting the development of next-generation data centers in northern BC. In our opinion, the Consultation Process should focus on:**

- the entire blockchain ecosystem and all of its associated innovative technologies;
- the potential for BC to capture significant employment growth and economic benefits in an environmentally responsible manner; and
- the resultant opportunities to drive down power rates in BC.

**These important topics will not be properly considered because the terms of reference for the Consultation Process are much too narrow.**

### Where are the Experts?

Another major shortcoming in the Consultation Process is the absence of expert opinion. If the Ministry of Energy has a sincere desire to explore the policy implications of new technologies and to keep the Province from falling



behind other jurisdictions, it would do well to seek out actual experts who work in cryptocurrency mining, blockchain development, and industrial-scale data centers, as well as representatives from the financial services sector who are familiar with how new payment and digital asset transfer systems are building the next generation of commerce. Because these technologies are very specialized and complex, very few members of the public are likely to have the knowledge required to inform policies relating to a new technology still in its infancy. Hundreds of hours need to be spent for individuals just to begin scratching the surface before understanding this new industry.

The Province's initial Consultation Process materials purport to explain cryptocurrency to the reader in a section entitled Cryptocurrency 101. The document summarizes what cryptocurrency is in just two short paragraphs, totalling 62 words<sup>10</sup>. It is simply not feasible to anchor a serious policy-making discussion about relatively new and extraordinarily complex blockchain technology based on such a summary. Doing so trivializes the significance of cryptocurrency mining – its role in a modern economy and its implications for the financial services sector. The Federal government has held serious policy hearings into the role of blockchain technology in the financial sector and prepared a 30-page report after considering input from 30 experts and six written submissions. It ensured sufficient study and analysis were undertaken by experts before arriving at its recommendations. In contrast, the Ministry of Energy believes the industry can be summarized in five lines.

### **Socio-Economic Costs and Benefits are not Addressed.**

Another major shortcoming is that the Ministry of Energy has not properly addressed the broader socio-economic costs and benefits associated with data centers subject to the moratorium. The Consulting Process materials reveal the primary reason for imposing the moratorium. They indicate that BC has plans to electrify the Province to achieve its GHG mitigation goals and that the government wants to protect BC Hydro's electricity for its policies that substitute electric power for fossil fuel power.

**In effect, the Province wishes to redirect a finite supply of energy away from economic growth to industrial repowering. Doing so has enormous implications for economic growth, employment, First Nations reconciliation, and rural opportunity.**

None of these critical issues are objectively evaluated in the Consultation Process materials with one exception. Relying on a 2018 KPMG study from Quebec, the Province dismisses job growth opportunities with the simple observation that cryptocurrency mining operations *"require few employees."* Even if we accept reliance on an out-of-province report five years out of date, we are disappointed that BC Hydro and the Ministry of Energy fail to mention that the Quebec report also disclosed that *"the level of economic value creation has the potential to increase if it is accompanied by other activities."* The truth is that over the past five years, a host of related employment has become associated with cryptocurrency mining, including repair and maintenance services for computers and data center infrastructure as well as software design, development, installation and monitoring to optimize data center performance. The development of a digital asset industry in BC also presents employment opportunities to meet the growing need for digital asset custodians and insurance services. Furthermore, because it is relatively new, there is a strong demand for legal, tax and accounting services to assist operators struggling with the complexities of these emerging technologies.

Regrettably, the Consultation Process materials present the redirection of resources away from growth as self-evidently beneficial. Any balanced evaluation of that policy choice would conclude it requires sophisticated economic models to be prepared that properly consider the socio-economic impacts of such a policy change.

We reviewed KPMG's recently released report entitled *Bitcoin's role in the ESG Imperative—An overview of the opportunities and creative approaches that deliver value and drive trust with key stakeholders*. KPMG notes that *"... despite Bitcoin's increased adoption, it continues to often be a misunderstood technology and asset class. At the same time there's a variety of impactful use cases that Bitcoin offers that have a track record of delivering value for their*



*users and society at-large.” This report confirms our statements about emissions and power usage, specifically noting that “Bitcoin consumes approximately 110 terawatt hours of energy per year, roughly 0.55% of global energy use which is equivalent to the amount of energy required for tumble dryers.”*

**KPMG’s views are supported by a recent report issued by an investment research unit in the Toronto Dominion Bank which states: “Bitcoin mining is in our opinion one of the most efficient, cleanest industrial uses of electricity and is improving its energy efficiency at a faster rate than most other industries.”**

### Confusing Financial Information

We wish to expand on our earlier statement that we believe BC Hydro customers will be disheartened when they learn their power rates are likely to increase to enable BC Hydro to achieve a payback and financial return on its \$16 billion Site C investment that, by coincidence, equals existing line losses. However, we find it difficult to accurately quantify the amount by which BC Hydro needs to capture additional revenues because some of the financial information it discloses is unclear.

The rates charged for electricity in BC are regulated by the BCUC and are comprised of two components. Rates must be high enough to enable BC Hydro to cover its costs and financial charges, as well as to enable BC Hydro to earn its targeted net income projected to be \$712 million annually. The first contributor to potentially higher power rates is straight forward. When Site C and other expensive transmission projects come on stream, BC Hydro projects that its financial charges (interest expense) will more than double from an estimated \$458 million in the most recent fiscal year ended March 31, 2023, to \$1,079 million in the fiscal year ending March 31, 2026. BC Hydro also projects that its amortization and depreciation charges will increase by \$267 million over the period. This combined increase of \$888 million is equivalent to 10% of total revenues in the final year of the forecast period.

The second contributor to potentially higher power rates – the profit component – is more difficult to quantify. BC Hydro discloses that an appropriate profit amounts to \$712 million annually. For the nine months ended December 31, 2022, BC Hydro reports that its net income was \$342 million. However, the report of the Auditor General of British Columbia references a “*departure from the group’s financial reporting standards*” that “*resulted in an overstatement of net income of \$265 million.*” Whether BC Hydro’s nine-month net income is \$77 million or \$342 million, BC Hydro’s run rate profits are materially below the level it has targeted in its financial projections. The current shortfall in net income means that we do not have the information we require to estimate what additional revenue and profit BC Hydro needs to capture to meet its net income target. We expect BC Hydro to issue its March 31, 2023, fiscal year results shortly. Hopefully, its current profitability levels will be clarified sufficiently to enable us to compile a more accurate estimate of future revenue requirements and the potential need for rate increases.

**Our key point is that BC Hydro’s costs and revenue requirements are both poised to increase by large amounts. It follows that BC Hydro should be exploring all opportunities available to it to optimize revenue generation and net income by avoiding line losses and prioritizing service to local customers over export customers. Both these initiatives help contain the need for future increases in the rates customers will be charged.**

### Biased Policy Options

A further major shortcoming of the Consultation Process is the way policy options have been identified and summarized in the materials the Ministry of Energy distributed in advance of the inaugural consultation sessions it hosted. Of the several options outlined in the initial Consultation Process materials, only one option proposes no discrimination toward cryptocurrency miners. Furthermore, when this option is described, the Ministry of Energy mentions that this “*option does not address concerns about the availability of power for electrification to support*

*environmental objectives or the affordability of rates.” No other analysis of this option is offered, nor are the benefits alluded to, even though this option aligns with federal policy.*

For all the above reasons, among others, Conifex believes the Consultation Process is of limited usefulness. It fails the most basic tests of being a foundation for thoughtful analysis commensurate with the seriousness of the issues at hand. Instead, it is a process that seeks to defend a policy stance that has already been taken.

**We do not understand why the provincial cabinet did not utilize the relevant provisions of the *Utility Commission Act* which empowers the Lieutenant Governor in Council to request the BC Utilities Commission to enquire into various matters.**

The BC Utilities Commission (BCUC) is an expert regulatory body responsible for regulating BC Hydro’s rates and tariffs. Its mandate includes carrying out fair and transparent reviews of matters and considers public input where the public interest is impacted. Its review protocols typically include written submissions and opportunities for intervenors to cross examine witnesses, features that have not been incorporated in the Consultation Process presently underway. If British Columbians are to fully accept the outcomes of these crucially important policy deliberations, it is vitally important that they be satisfied that the evidence reviewed was complete and accurate and that the witnesses were credible. These outcomes cannot be achieved through a one-sided Consultation Process that includes BC Hydro but not the BCUC. If a BCUC inquiry had been mandated, we believe that several of the Consultation Process shortcomings referenced in this White Paper would have been mitigated.

## **Conclusion**

For the reasons outlined in the preceding analysis, the moratorium imposes heavy costs on British Columbians, including:

- **Foregone development opportunities in rural and hard-hit forest communities;**
- **Higher social support costs;**
- **Foregoing Indigenous reconciliation opportunities;**
- **A further chill on the investment climate in BC, reflecting the risk of arbitrary government reactions in the future;**
- **The general loss of economic efficiency when the provincial cabinet picks winners and losers; and**
- **The decimation of regulatory integrity and public rights when a provincial cabinet overrides its regulatory agencies with poorly reasoned policy actions.**

Selling power to data centers developed by Conifex drives economic opportunity, helps grow employment and tax bases in northern BC, forms a foundation for reconciliation with Indigenous Peoples, and lowers global carbon emissions. This is a far better use of BC’s available power than exporting low-value power and economic opportunity to the US and Alberta. For these reasons, among others, the moratorium needs to be overturned.

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## End Notes

### **1** *'Background':*

Conifex is a British Columbia forestry and independent power company operating in lumber and bioenergy. Our lumber operations are primarily involved in the manufacture, sale, and distribution of dimension lumber through our sawmill located in Mackenzie, British Columbia. Our bioenergy facility is located adjacent to our Mackenzie sawmill. Conifex owns a forest licence in the timber supply area in and around Mackenzie with an allowable annual cut of 632,500 cubic metres, and own 50% of a joint venture which holds a forest licence with an AAC of 300,000 cubic metres in the same TSA. Our Mackenzie mill has approximately 240 million board feet of annual lumber capacity on a two-shift basis. Conifex operates a 36 MW biomass power generation plant in Mackenzie. Our power plant's output capacity is more than 230 GWh hours of electricity per year. We have an electricity purchase agreement (EPA) and a related load displacement agreement (LDA) with BC Hydro. Under the EPA, BC Hydro agreed to purchase approximately 200 GWh of electrical energy annually over a 20-year term for a fixed price, and under the LDA we agreed to supply the energy requirements of our Mackenzie mill over the same 20-year term.

### **2** *'The Province Encouraged Conifex to Develop Data Centers':*

Section 3 of the Hydro and Power Authority Act states "BC Hydro is for all its purposes an agent of the government and its powers may be exercised only as an agent of the government."

**3** Key messages set out in the BC Hydro slide deck included numerous references to data centers as illustrated below:

- "Attracting new businesses to B. C. that want to be powered clean."
- "Making it easier for current and future customers to connect to our grid."
- "Outlining opportunities in the fields of "Clean technology and innovation (**data centers**, hydrogen production, and carbon sequestration)."
- "Attracting new business to B. C." and specifically:
  - "B. C. Hydro is reaching out to energy intensive industries – from **data centers** to green hydrogen – to set up new operations in B. C."
  - "Seeking customers who have flexibility where they operate and want to be powered by clean electricity."
  - "Providing support to identify locations where there is excess capacity at existing customer of B. C. Hydro owned sites (greenfield and brownfield)."; and
- "Local Governments – As an economic developer" promoting "new electrified industries – e.g., **data centers** and **cryptocurrency**."

### **4** *'BC is Prevented from Participating in the Technology Boom Now Underway':*

BC Hydro and the provincial cabinet appear to be unaware that:

- The Bank of Canada has a 15-person research team studying the merits of launching a Canadian dollar digital currency.

- The Bank of International Settlement reports that some two dozen central banks across emerging and advanced economies are expected to have digital payment systems in effect by the end of the decade.
- The Reserve Bank of India has developed the e-rupee as a digital alternative to physical cash using blockchain distributed ledger technology and expects one million daily transactions by the end of the year; and
- The Lightning Network is a burgeoning, global, open payments protocol which has been built “on top of” the Bitcoin network. This new network enables instant payments and micropayments down to a fraction of a penny. Networks such as Lightning are poised to change e-commerce and provide a new future for the Internet. Traditional financial institutions simply cannot achieve these outcomes.

## 5 *‘The Moratorium Undermines Revitalization at Hard-Hit BC Forest Communities’:*

The OIC has unnecessarily delayed Conifex’s ability to:

- Leverage its core competencies,
- Expand its 400+ employee and contractor base,
- Diversify and strengthen revenues and cash flow, making it more challenging to:
  - Sustain production and employment when lumber prices are low, and
  - Fund government tax remittances and stumpage payments.
- Create new value add forest products

Because Conifex is committed to collaborating with First Nations on the two projects, the moratorium also forces Conifex to put key reconciliation initiatives on hold.

## 6 *‘Apples to Oranges Comparison are Misleading’:*

Sticking to an “apples-to-apples” comparison, the traditional finance and insurance sector that the Bitcoin blockchain competes with uses four times as much power as cryptocurrency mining.

## 7 *‘Prioritizing Local Consumption over Power Exports Benefits British Columbians’:*

This explains Minister Kahlon’s earlier comments about the “*huge opportunity in northern BC from improved connectivity.*” BC Hydro’s late 2021 slide deck acknowledges this opportunity through the reference to “*Seeking customers who have flexibility where they operate.*”

<sup>8</sup> In 2022, the Province of Alberta hosted a roundtable for crypto mining industry participants to develop Bitcoin and other digital asset mining opportunities in Alberta. It also led Canada’s first-ever blockchain trade mission to a major industry event in Texas. It is unsettling for British Columbians to learn that export customers are promoting cryptocurrency mining at a time when a moratorium is in place in BC.

<sup>9</sup> Powerex pays incentive compensation to its employees for arranging export sales while BC Hydro does not pay incentive compensation on domestic sales. Would British Columbians benefit if these incentive compensation arrangements were reversed?

## 10 *‘Where are the Experts?’:*

The Ministry of Energy provides an example of three cryptocurrencies. Based on current industry practice, one of the three no longer fits the definition of a cryptocurrency.



**CONIFEX**

The Future of Forestry