

# Pioneering Clean Energy for a Sustainable Future

Corporate Presentation



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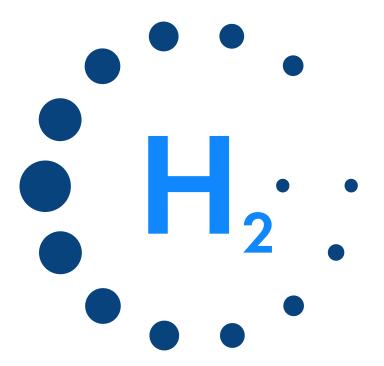
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### Overview



- 1. COMPANY OVERVIEW
- 2. HYDROGEN OUTLOOK
- 3. HAT CREEK PROJECT
- 4. BOARD & MANAGEMENT
- 5. CAPITALIZATION



# **Our Company**

Generation Hydrogen prioritizes finding and developing new sources of clean energy for the energy transition.

As a crucial part of our strategy, we have newly acquired one of the thickest accumulations of coal in the world, the Hat Creek Project, in British Columbia.

GH2's team, comprising top-tier engineers, environmental experts, and First Nations consultants, is united in its mission to harness the vast coal deposit for clean energy, with a strong focus on environmental preservation and cultural respect.

Our project team has identified a number of proven development options that will result in extraction of clean / net zero energy in the form of hydrogen and electricity critical to the global energy transition.





### Investment Highlights - Hat Creek Project



# One of the THICKEST ACCUMULATIONS OF COAL IN THE WORLD

"Once in a generation", in terms of size & scope, asset available for "at-cost" valuation.



# 1+ COAL = 15-19GJ

The equivalent energy stored in deposit = 150b GJ - 19b GJ. This is equivalent to the energy produced by the worlds largest wind/solar project over 20 years.



# 50 to 100 YEARS

The project's immense potential, yet to be fully explored, enables GH2 to envision a long-lasting clean energy initiative with substantial economic benefits over **50 to 100 years.** 



# 1200<sub>m</sub> THICK 8 550<sub>m</sub> IS COAL

Tertiary rocks in the graben contain a coal member that is 1200m thick, of which up to 550m is coal.



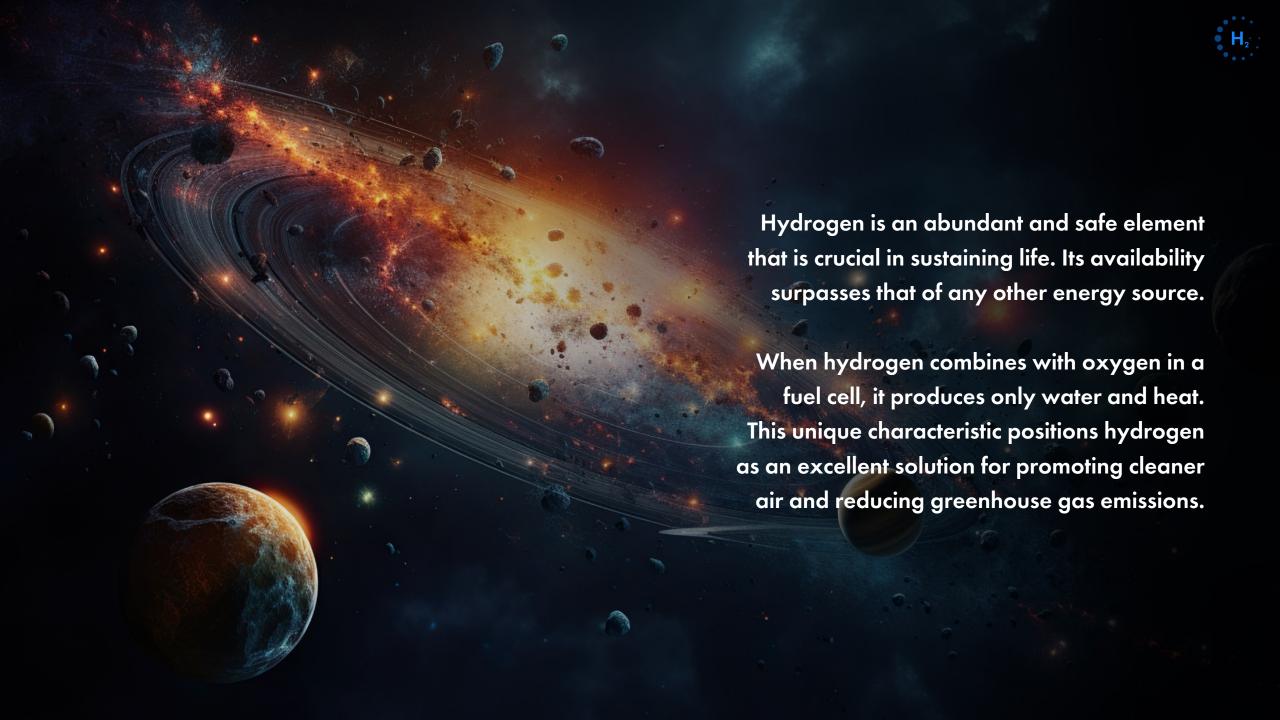
# 1 Obt RESOURCE & 700Mt PROVEN

The deposit contains a resource of about **10b tonnes**, of which approximately **700m tonnes** is of both sub-bituminous B and lignite coal.



# \$250m INVESTED OVER 25 YEARS

BC Hydro invested **25 years** and over **\$130m** (unadjusted for inflation, approx. **\$240m in 2024**) exclusively in only a thermal burning plant strategy.

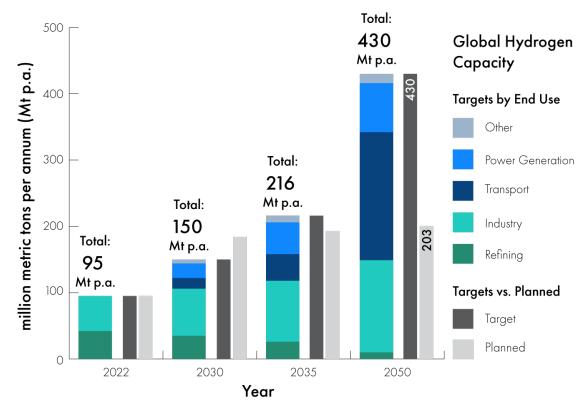






## The Current & Future Landscape

- The Hydrogen element was discovered by Henry Cavendish in 1766
- ▶ When used in fuel cells, hydrogen only produces water as waste.
- Hydrogen contains 3X as much energy as natural gas or gasoline, and 200X as much energy as lithium-ion batteries.
- ➤ The Canadian Government and British Columbia offer funding for clean fuel projects, covering up to 30% of costs, with a maximum of \$150 million, which matches the estimated \$5 million cost for the project. This support comes from the \$1.5 billion Clean Fuels Fund established in the 2021 Canadian Budget, and proposals are invited by the Minister of Natural Resources.
- ➤ Canada's commitment to hydrogen was reinforced in August 2022 when it signed a deal with Germany to supply hydrogen. This highlights Canada's goal of becoming a major hydrogen producer and exporter, while Germany aims to use renewable hydrogen to cut emissions from its hardest-to-clean sectors as part of its 2045 climate neutrality target.





According to the IEA's Net Zero Scenario, only 47% of the total production capacity required by 2050 is currently in progress.



#### HYDROGEN OUTLOOK

# Market Challenge

Vehicles are becoming more efficient, but transport emissions are increasing. It is essential to find ways to reduce these emissions while meeting the growing demands for travel and freight.



#### **Demand** is increasing

 E-commerce is putting the squeeze on transportation with its low-cost, fast deliveries.



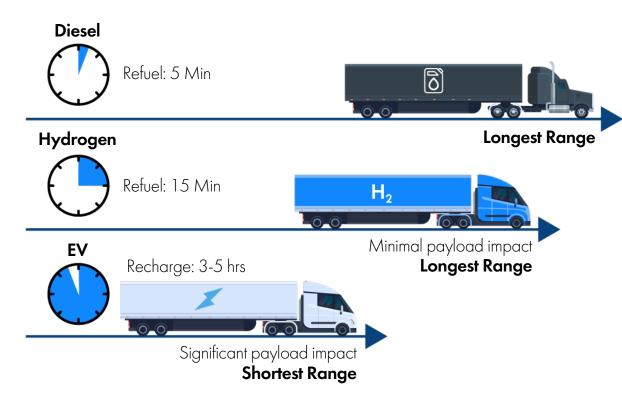
#### **Emission target pressures**

 Stricter emission targets roll out starting 2025 that petrol and diesel engines will not meet.



#### Electric can't replace diesel

- EV batteries are too heavy and slow to recharge for commercial use. National grid limits hinder EV charging station expansion.
- We need to invest heavily in charging infrastructure for EVs, but their lithium-ion batteries rely on rare metals that are running out.





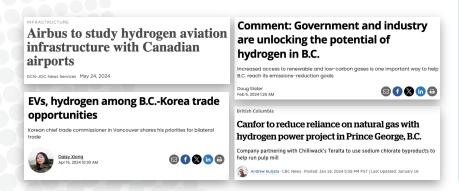
With limited clean fuel options, Hydrogen is the cleanest fuel available, making it the best choice to fight the climate crisis.





# Investing in Canada's Hydrogen Boom

- The market for hydrogen in Canada is rapidly expanding, with numerous international companies already investing in projects.
- Canada's favorable geography, infrastructure, and abundant renewable resources provide a competitive advantage for green hydrogen production.
- Significant funding and comprehensive support from federal and provincial governments create an attractive environment for investors.



**British Columbia** 

\$900M project to create hydrogen plants, refuelling stops in B.C.

H2 Gateway project aims to create 20 fill-up stations for hydrogen fuel cell vehicles

The Canadian Press · Posted: May 24, 2024 12:01 PM PDT | Last Updated: May 24

- Project Overview: The \$900 million H2 Gateway project, with a \$337 million loan from the Canada Infrastructure Bank, will build 20 hydrogen refuelling stations and three production plants in BC and Alberta, creating nearly 300 jobs.
- Impact: The project aims to reduce emissions by 133,000 tonnes annually, replace diesel with clean hydrogen fuels, and boost the local economy through job creation and new investments.
- Hydrogen Adoption: By developing hydrogen refuelling infrastructure, the project supports long-distance travel and quick refuelling for heavy-duty trucks, overcoming challenges of energy density and refuelling time compared to electric batteries.





Read the full article here:





# History & Background of Hat Creek

- In the Hat Creek Valley, a massive coal deposit was discovered in 1877 by Dr. George Mercer Dawson during his surveying work for the Dominion of Canada and the Canadian Pacific Railway.
- The coal deposit is 26 kilometers long,
   4 kilometres wide, and 1200 meters thick.
- Among the world's thickest coal reserves, it holds about 10 billion tonnes, with over 700 million tonnes of both subbituminous B and lignite coal. For reference the largest operating coal mine, North Antelope Rochelle, is just over 1.7 billion estimated tonnes.
- The deposit underwent drilling, open pit engineering, extensive metallurgical and environmental assessments, and test coal mining by BC Hydro in the late 1970s, followed by a feasibility study conducted by the Cominco-Monenco Joint Venture for BC Hydro & Power Authority, completed in 1979.









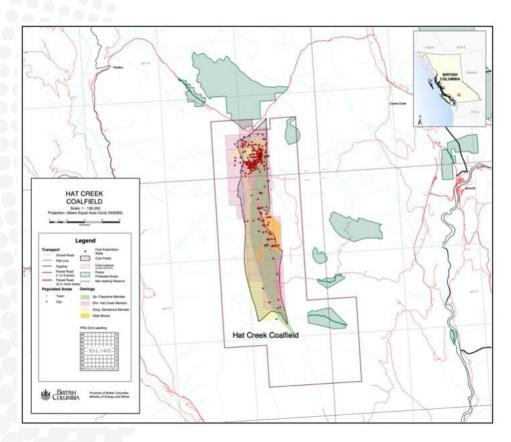


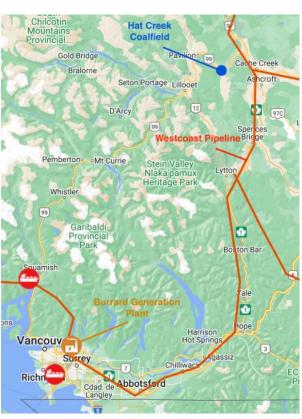


#### HAT CREEK PROJECT

### Location

Hat Creek Project deposits are located 200 kilometers northeast of Vancouver, BC and approximately 24 kilometers due east of the town of Lillooet, BC.





#### **Project Stats**

**Discovery Date: 1877** 

#### Location:

Hat Creek Valley

- 200 km NE of Vancouver, BC
- 24 km E of the town of Lillooet, BC.
- 30km W of Cache Creek, BC on Hwy 99

#### **Historical Spend:**

\$130m over 25 years (unadjusted for inflation, approx. \$240m in 2024)

Inferred Resources: 10b t

**P+P resources:** 700m t of both sub-bituminous B & lignite coal

#### **GPS Coordinates**

N 50°46.261′ W 121°35.765′

Altitude: 916 m./3,005 ft.

#### Clean Energy Project Status:

**Under Review** 

#### **Net Outputs:**



Carbon Free Hydrogen



Methanol



Ammonia & Fertilizer Feedstocks



Plastics



FT Liquids & Waxes



Clean Electricity



#### TRANSFORMING THE FUTURE OF HAT CREEK PROJECT

# Property Advantages



#### **Resource & Production Advantages:**

- Extensive coal reserves of 5 to 10+ gt for syngas production and exploiting stranded resources.
- A significant resource of lignite to sub-bituminous B coal exists in a graben, 26km long and 4km wide.
- Tertiary rocks in the graben contain a coal member that is 1200m thick, of which up to 550m is coal.
- The deposit contains a resource of about 10b tonnes, of which approximately 500m tonnes is proven reserve.



#### **Infrastructure & Location Benefits:**

- Proximity to essential infrastructure: rail, power, highways, and natural gas.
- Isolated location away from large populations, with Enbridge's gas transmission station at Savana, BC nearby, BC Hydro power transmission lines supporting carbon-free power generation, Rail, Highway 99 and the Port of Vancouver (~300km away).
- An optimal 80-acre industrial site, the Burrard Generation Plant in Port Moody, BC, is a mothballed bunker fuel power plant with rail access, adjacent to the Westcoast Pipeline terminal, enabling transportation of natural gas and potentially hydrogen, and featuring nearby shipping infrastructure linked to global markets.



#### **Environmental & Economic Benefits:**

- Reduced environmental impact with net-zero carbon capture and superior flue gas desulphurization.
- Production of low or zero-carbon products like hydrogen, MeOH, and polymers promotes cost efficiency and high economic returns.



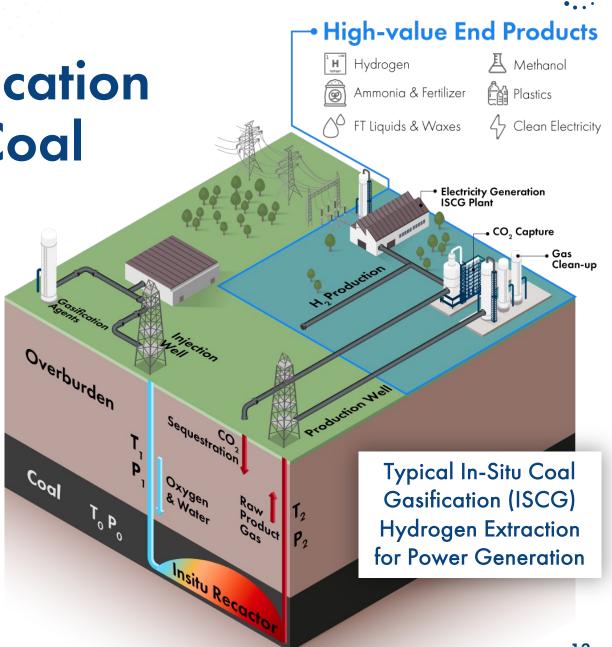
#### Collaboration & Scaling Opportunities:

- Collaboration opportunities with major utilities like BC Gas and Enbridge, including joint ventures with BC Hydro and other Westcoast utilities.
- Ability to scale investment for higher rates of carbon-free hydrogen and power, with the potential for significant discounts on resource acquisition.

TRANSFORMING THE FUTURE HAT CREEK PROJECT

In-situ Combustion-Gasification (ISCG) or Underground Coal Gasification

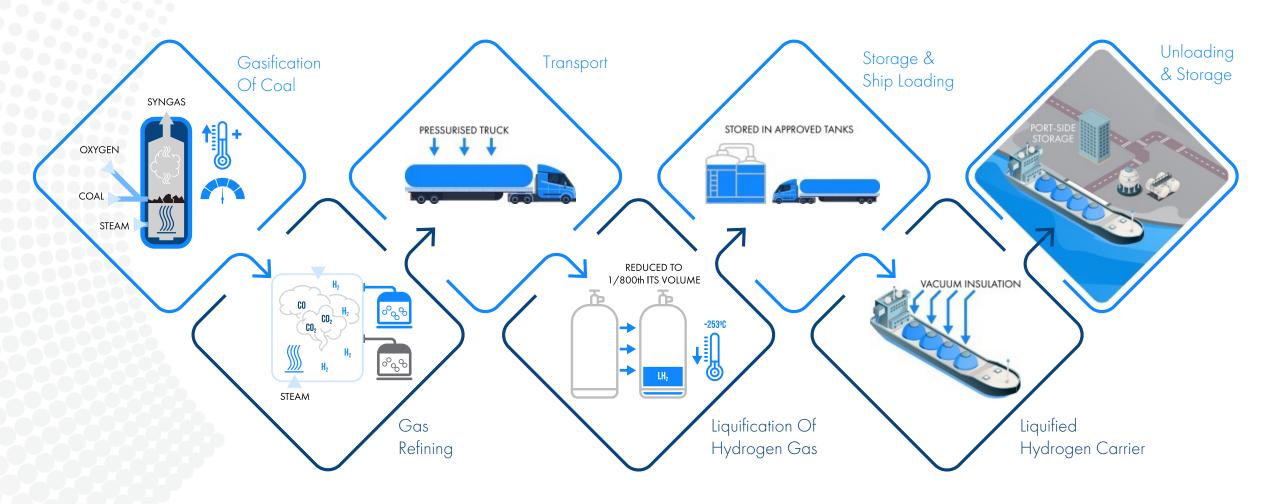
- ► ISCG is an appealing alternative to traditional mining techniques that converts coal in the ground into gas products, known as synthesis gas or "syngas".
- The process reduces costs and hazards linked to mining, transportation, and surface gasification.
- ➤ Using a combined cycle power plant fueled by hydrogen, along with pre-combustion capture and sequestration, results in net-zero CO2 emissions compared to traditional coal-fired plants with post-combustion CO2 capture.
- Syngas can be used to manufacture high-value products such as carbon free hydrogen, ammonia and fertilizer feedstocks, FT liquids & waxes, methanol, plastics, or clean electricity.
- ► ISCG has been successfully implemented in Alberta, Canada, Eastern Europe/Russia, the United States, China, Australia, & other countries.





#### TRANSFORMING THE FUTURE OF HAT CREEK PROJECT

# Coal to Hydrogen Process



TRANSFORMING THE FUTURE OF HAT CREEK PROJECT

# Phases of company growth

#### **Commercial Pilot:**

Generate 25 MW of Carbon Free Power and Test ISCG

- ➤ The pilot project will be small-scale ISCG of coal, requiring minimal surface facilities, with two well pairs (one injection, one producing).
- Demonstrate safety and commercial viability of ISCG subsurface exploitation process for Hat Creek Project.
- Expected composition of synthetic gas at wellhead conditions: 35% carbon dioxide, 10% carbon monoxide, 25% methane, and 30% hydrogen, with combustion water.
- ► The facility will generate power into the existing BC Hydro power grid, aiming for net-zero emissions by capturing all carbon for sequestration.

The pilot will continue until confidence is built for a larger project to produce commercial carbon-free hydrogen, aiming to showcase the full commercial potential of the Hat Creek Project resource within a one-year operation using the ISCG scheme.



#### **Full Production:**

Full scale Carbon Free H<sub>2</sub> Production

- ➤ Success of the Commercial Pilot Project leads to pre-FEED work and environmental / regulatory preparation.
- ➤ Time to Commercial Operation Declaration will take approximately 3-4 years under standard permitting timelines.
- Existing BC Hydro transmission lines readily available nearby as well as other supporting infrastructure such as highways, rail, cooling water supply, gas pipeline, and communications.
- ► ISCG exploitation planned to produce:
  - Commercial-grade liquid hydrogen.
  - Spare power generation that can be sold and scalable with ISCG growth.
  - Commercial-grade Ammonium Sulfate: Ammonium Sulfate production chosen for economic viability & market demand, with Syncrude as a proven example.

#### Where we are today:

- ► Property ownership secured
- ► High level assessment report from an Independent energy consultant completed
- Application process started with the BC Ministry of Mines Coal Licensing Department



#### HAT CREEK PROJECT

# Resource in Place Comparables

The Hat Creek project is significantly de-risked through the development of a major, established coal resource that contains significant value in itself. The following chart demonstrates the value of the deposit alone, alongside other major coal mines/projects.

Name	Location	Reserves & Resources	Status	Opened	Туре	Production (2020A)	Owner	Ticker	Market Cap (US\$M)	\$ / tonne (P&P)	\$ / tonne (M&I)	\$ / tonne (Inferred)
Hat Creek Project	ВС	700Mt (historical P&P)10,000Mt (historical Inferred)	Closed	n/a	Coal/ Hydrogen	n/a	Altus Capital	private	private	n/a	n/a	n/a
North Antelope Rochelle Mine	Wyoming	1,700Mt (P&P) <sup>(1)</sup>	Operating	1983	Thermal	60Mtpa	Peabody Energy	BTU:NYSE	\$3,245	\$1.9/t	n/a	n/a
Sugar Camp Energy Mining Complex	Illinois	1,300Mt (P&P) (2)	Operating	2012	Thermal	11Mtpa	Foresight Energy	private	private	n/a	n/a	n/a
Wapiti River	ВС	759Mt (Resources) <sup>(3)</sup>	Closed	n/a	Coking Coal	6.0Mtpa (estimated)	Canadian Dehua Int'l. Mines Corp.	private	private	n/a	n/a	n/a
Murray River	ВС	688Mt (P&P at Plot 1) <sup>(4)</sup> (Est. 3.18 billion tonnes)	Closed	n/a	Coking Coal	n/a	HD Mining Int'l.	private	private	n/a	n/a	n/a
Black Thunder Mine	Wyoming	545Mt (P&P) 205Mt (M&I)(5)	Operating	1977	Thermal	46Mtpa	Arch Resources	ARCH:NYSE	\$2,466	\$4.5/t	\$12.0/t	n/a
Antelope Mine	Wyoming	453Mt (P&P) <sup>(6)</sup>	Operating	1985	Thermal	21Mtpa	Navajo Transitional Energy Corp.	private	private	n/a	n/a	n/a
Freedom Mine	North Dakota	257Mt (P&P)330Mt (M&I) <sup>(7)</sup>	Operating	nd	Thermal	12Mtpa	Nacco Industries	NC:NYSE	\$325	\$1.3/t	\$1.0/t	n/a
Huguenot & Flatbed	ВС	189Mt (M&I)492Mt (Inferred) <sup>(8)</sup>	Resource	n/a	Coking Coal	n/a	Colonial Coal Corp.	TSXV:CAD	\$235	n/a	\$0.8/t	\$0.6/t
Average									\$1,568	\$2.6/t	\$4.6/t	\$0.6/t
Median									\$1,396	\$1.9/t	\$1.0/t	\$0.6/t



## **Board & Management**

#### **Chase Edgelow**

Founder & Managing Director

Chase is a distinguished entrepreneur with over 15 years of experience in energy and finance. He founded EverGen Infrastructure, a leading Canadian renewable natural gas platform, and Chase Capital, a private equity and advisory firm where he led five acquisitions, raised approximately \$100 million, and developed a renewable project portfolio—all within three years. During his 12 years at Macquarie Group in Canada and Australia, he made principal investments, advised on transactions, and arranged capital for projects and businesses in mineral energy. Mr. Edgelow holds a degree in Engineering Physics from Queens University, is a Professional Engineer (non-practicing) in Alberta, and is a CFA charter holder. His career also includes roles at Petro Canada, Tristone and leadership in Quadrant Energy's acquisition and monetization.

#### Michael Townsend

Director & Chairman

Mr. Townsend has over 25 years of experience in corporate finance and 30 years in capital markets. He is one of the founding partners of Altus Capital Partners, a boutique investment bank based in Vancouver, B.C., which has raised over \$180 million in equity financings over the past five years. Mr. Townsend co-founded Hemptown, Patriot One Technologies Inc., Body and Mind Inc., and Raytec Metals Corp. He previously served as CEO of Lateegra Gold Corp. and CEO of West Hawk Development Corp.

#### Zayn Kalyan

CFO & Director

Zayn Kalyan is an experienced investment banker and business development executive. Beginning his career as a software engineer, he leveraged his background in the development of startup technology companies to build a strong foundation in finance. Since 2017, he has served as the CEO of Infinity Stone, playing a pivotal role in its focus on the battery metals space. As a partner at Altus Capital Partners, Zayn has been instrumental in originating over \$50 million in financing. Since 2014, he has also held upper management positions and served on the boards of multiple public companies.

#### **Brandon Boddy**

Founder & Director

Brandon Boddy brings over 19 years of capital markets experience and has been a key figure in numerous high-profile ventures. As a founding director of Auxly Cannabis Group Inc., he was instrumental in raising over \$300 million and led various corporate development and M&A initiatives. Additionally, he served as a director of Bee Vectoring Technologies International Inc. and founded US Cobalt Corp., which sold for \$149 million in 2018. From 2006 to 2014, Mr. Boddy held the position of Vice President at Canaccord Genuity Group, Inc., gaining extensive experience and honing his expertise in the capital markets. Boddy advises public and private firms in the health and wellness, mining, and cannabis sectors. A former NCAA Division One athlete, he remains engaged in various philanthropic initiatives.



## **Board & Management**

#### Henry M. Gil, P. Eng.

Technical Advisory Board Member

Mr. Gil, a highly skilled professional engineer, has over 20 years of experience in hydrocarbon extraction, oil and gas production, and power generation. His broad expertise encompasses project engineering, asset integrity, and mechanical systems in various sectors. In his role at H.M. Gil & Associates Inc., he oversaw significant projects like redesigning CNRL's dewpoint plant and CO2 sequestration initiatives. Previously, he held key positions at GCM Consultants and Accel Holdings Canada Ltd., where he managed large-scale engineering projects and enhanced operational efficiencies. Mr. Gil's background includes contributions to projects at Suncor Energy Services and Long Lake OPTI Upgrader JV. He holds degrees in mechanical engineering, chemical-petroleum engineering, and geology-geophysics. Additionally, he is a member of APEGA and holds certifications from the American Petroleum Institute.

#### **Lanre Oloniniyi**

Independent Board Member

Mr. Oloniniyi has over 20 years of investment experience across EMEA and cofounded Orbitt Ltd, the first Africa-focused deal origination platform. He previously raised capital for African start-ups and held roles at BP, Subsea 7, and Citi where he was involved in project finance for energy infrastructure in West Africa, Brazil and USA. Lanre serves on the Advisory Board of Alpha Credit Fund and Loinette Capital and holds a BSc in Economics, an MSc in Energy Economics, and an MBA from the University of Cambridge.

#### Alex Sekella

Branding & Marketing Advisory Board Member

Alex Sekella is a seasoned branding and marketing professional with over 20 years of experience in the field. Alex has a track record of starting and developing successful public companies, private corporations, and start-ups from the ground up in diverse roles, such as marketing director and creative director.



### **Partners**

#### **Jeff Durno**

Lead Legal Counsel - Cassels Brock & Blackwell LLP

Jeff Durno is a partner in the Securities Group at Cassels Brock & Blackwell LLP, specializing in securities and corporate finance. With over two decades of experience in the public market, Jeff advises startups and established businesses on complex commercial transactions and financial restructurings. He represents issuers, investment dealers, and advisors in industries such as technology, manufacturing, and natural resources. Clients value his strategic advice, creativity, and efficiency in structuring deals and planning strategies. Formerly the Managing Partner of a Vancouver-based boutique law firm and a director and officer of various technology companies and merchant banks, Jeff brings a unique perspective to his practice.

Cassels Brock & Blackwell LLP is a leading Canadian law firm specializing in transactional, advocacy, and advisory services for dynamic business sectors. With one of Canada's largest business law practices, the firm advises a diverse range of clients, from start-ups to multinationals, locally and globally. Recognized as a market leader by Chambers, Lexpert, and Best Lawyers, Cassels remains at the cutting edge of legal and business trends, offering practical and flexible solutions. Their lawyers also actively serve in leadership roles across various business, civic, charitable, and cultural organizations, nationally and internationally.

#### **MNP**

#### **Auditors**

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