



**Management's Discussion and Analysis**

**For the nine-month period ended September 30, 2022**

# **NORTHSTAR CLEAN TECHNOLOGIES INC.**

## **Management's Discussion and Analysis**

**September 30, 2022**

---

### **DESCRIPTION OF BUSINESS AND OVERVIEW OF OPERATIONS AND FINANCIAL CONDITION**

The following is management's interim discussion and analysis ("MD&A"), prepared as of November 22, 2022. This MD&A should be read in conjunction with the unaudited Interim Consolidated Financial Statements for the nine months ended September 30, 2022 and the accompanying notes, the Company's audited Consolidated Financial Statements and the accompanying notes for the year ended December 31, 2021, all as prepared in accordance with International Financial Reporting Standards ("IFRS"). All amounts are stated in Canadian dollars unless otherwise indicated.

#### **Forward Looking Statements**

This report includes certain statements that may be deemed "forward-looking statements" within the meaning of applicable securities legislation. All statements, other than statements of historical facts that address such matters as future events or developments that the Company expects, are forward-looking statements and, as such, are subject to risks, uncertainties, assumptions and other factors of which are beyond the reasonable control of the Company. You can identify these statements by forward-looking words such as "expects", "does not expect", "plans", "anticipates", "does not anticipate", "believes", "intends", "estimated", "projects", "potential", "scheduled", "forecast", "budget", and similar expressions, or that events or conditions "will", "would", "may", "could", "should" or "might" occur and similar words. Such statements give the Company's current expectations or forecasts of future events and are not guarantees of future performance and actual results or developments may differ materially from those expressed in, or implied by, this forward-looking information. With respect to forward-looking statements and information contained herein, we have made numerous assumptions including among other things anticipated costs and expenditures and the Company's ability to achieve its goals. Although management believes that the assumptions made and the expectations represented by such statements or information are reasonable, there can be no assurance that a forward-looking statement or information herein will prove to be accurate. Forward-looking statements and information by their nature are based on assumptions and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Factors that could cause actual results to differ materially from those in forward-looking statements include, for example, such matters as continued availability of capital and financing and general economic, market or business conditions. Although we have attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in the forward-looking statements or information, there may be other factors that cause actual results, performances, achievements or events not to be anticipated, estimated or intended. Accordingly, readers should not place undue reliance on forward-looking statements or information. Any forward-looking statements are expressly qualified in their entirety by this cautionary statement. The information contained herein is stated as of the current date and subject to change after that date and the Company does not undertake any obligation to update publicly or to revise any of the forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by applicable securities laws.

#### **Description of Business**

Northstar Clean Technologies Inc. ("Northstar" or the "Company") was incorporated on August 21, 2017 as Blocktech Ventures Inc. under the laws of the British Columbia Business Corporations Act. On August 4, 2020, the Company entered into an amalgamation agreement and on December 23, 2020, the Company completed an amalgamation with its subsidiary 1257848 BC Ltd. and Empower Environmental Solutions Ltd ("Empower") (the "Amalgamation"). Upon Amalgamation, the Company acquired all the shares of Empower (41,248,577 shares) by issuing 44,331,147 Company shares in exchange. Pursuant to the agreement, following completion of the transaction, Empower shareholders owned approximately 64.92% of the combined company resulting in the shareholders of Empower controlling the Company. Accordingly, the transaction was considered a reverse takeover transaction ("RTO").

The Company filed a preliminary prospectus dated April 15, 2021, an amended and restated preliminary prospectus dated May 7, 2021, and a final prospectus dated June 18, 2021. The Company raised \$12,241,312.30 on the issue of 34,975,178 Units at a price of \$0.35 per Unit. Each Unit is comprised of one common share in the capital of the Company (each, a "Share") and one-half of one transferable common share purchase warrant (each whole warrant, a "Warrant"). Each Warrant will entitle the holder thereof to acquire one Share (each, a "Warrant Share") at a price of \$0.50 per Warrant Share for a period of two years. The Warrants are trade on the TSX Venture Exchange (the "TSX-V") under the symbol 'ROOF.WT'.

The Company listed its common shares on the TSX-V and began publicly trading on the TSX-V under the symbol 'ROOF' on July 13, 2021. On January 11, 2022, the Company's common shares commenced trading on the OTCQB Venture Market (the

## **NORTHSTAR CLEAN TECHNOLOGIES INC.**

### **Management's Discussion and Analysis**

**September 30, 2022**

---

“OTCQB”) under the ticker symbol ‘ROOOF’. In addition, on January 11, 2022, the Company’s common shares became eligible for book-entry and depository services at the Depository Trust Company (“DTC”), which facilitates electronic clearing and settlement of transfers in the United States. The head office and principal address of the Company is located at 1110-396 11<sup>th</sup> Ave SW, Calgary, Alberta, T2R 0C5 and its current facility is located at 7046 Brown Street, Delta, British Columbia, Canada, V4G 1G8 (the “Empower Pilot Facility”). The Company’s registered and records office is 6204 – 125<sup>th</sup> Street, Surrey, British Columbia, Canada, V3X 2E1.

On January 18, 2022, the Company incorporated Empower Environmental Solutions Calgary Ltd (“Calgary”) under the laws of the Alberta Business Corporations Act, and on January 20, 2022, the Company incorporated Empower Environmental Solutions Toronto West Ltd. (“Toronto West”) under the laws of the Ontario Business Corporations Act to facilitate possible expansion into those markets.

The Company, through its wholly-owned subsidiary Empower, has developed a proprietary design process technology, the Bitumen Extraction & Separation Technology (“BEST”), at its Empower Pilot Facility for taking discarded or defective single-use asphalt shingles, otherwise destined for already over-crowded landfills, and extracting the liquid asphalt, aggregate and fiber for use in new asphalt, shingles, construction products and other industrial applications. The Company’s proprietary design process was developed over the last decade with technical and scientific assistance from the United Kingdom and Alberta. On November 8, 2022, the Company announced that it has been issued a patent for the Company’s front-end technology for reprocessing asphalt shingles by the United States Patent and Trademark Office (“USPTO”). This patent is expected to remain in force until 2042. Further, Northstar has filed follow-on continuation patent applications with the USPTO. As well as an application for patent approval in Canada and plans to file a Patent Cooperation Treaty international application.

#### **Outlook and growth strategy**

As an emerging innovator in sustainable processing, Northstar's mission is to be the leader in the recovery and reprocessing of asphalt shingles in North America, extracting the recovered components from asphalt shingles that would otherwise be sent to landfill.

#### **Empower Pilot Facility – Delta, BC**

In February 2022, the Company announced that it has initiated steady state production at the Empower Pilot Facility, which is expected to deliver throughput of asphalt shingles in the range of 10-20 tonnes per day (“tpd”) up to 4-5 days per week. Steady state operation will continue at these levels with the objective of demonstrating repeatable production in terms of production safety, quality, and duration (hours per day and days per week). Most importantly, the two primary output products (liquid asphalt and aggregate) are being produced exactly as designed, meeting the Company’s end product specifications. The production of specification products has enabled the Company to deliver samples of its “green asphalt” and aggregate to multiple major road paving & construction companies, shingle manufacturers, flat roof system manufacturers and other industry stakeholders for detailed technical analysis. Internal testing capability has also been implemented at the Empower Pilot Facility, enabling the development of a quality assurance program for the Company’s reprocessed products.

Since October 2021, the Company has been implementing the changes identified through the unit-by-unit commissioning of the Company’s proprietary Bitumen Extraction & Separation Technology (“BEST”) process at the Empower Pilot Facility. This commissioning process, combined with the ramp up to steady state production achieved in Q1 2022, has provided a clear roadmap for commercial production levels targeted at 50-75 tonnes per day (“tpd”). The Company believes that the operation of its Empower Pilot Facility validates the use of Northstar’s proprietary BEST Technology in the foundational design of the Company’s future “scale up” facilities. Steady-state production at the Empower Pilot Facility has given the Company an opportunity to make operational strides in three main areas: (i) identifying key areas of improvement, (ii) feedback from product specification analysis and (iii) engineering development work. The lessons learned from the Empower Pilot Facility will help the Company incorporate these changes into the detailed design for the Empower Calgary Facility. Furthermore, the initial purchase order with a major international customer engaged in the production of asphalt roofing systems (the “Customer”), announced on September 29, 2022, allows the Customer to incorporate the Company’s liquid asphalt product into its own proprietary product. The Purchase Order is expected to be delivered to the Customer in Q4 2022. The Company and the Customer expect this testing to lead to a long-term offtake agreement for the Empower Pilot Facility.

While Northstar, through its wholly owned subsidiary Empower, originally agreed to supply liquid asphalt from the Empower Pilot Facility to Lafarge Canada Inc. during the first year of commercial production, the agreement is no longer in effect.

# **NORTHSTAR CLEAN TECHNOLOGIES INC.**

## **Management's Discussion and Analysis**

**September 30, 2022**

---

The Empower Pilot Facility is the Company's research & development and testing facility and demonstrates the proof-of-concept of the Company's proprietary process design technology. Through the ongoing testing and feedback provided by various customers in the asphalt shingle manufacturing sector, flat roofing system manufacturer sector and the paving sector, the Empower Pilot Facility is critical to the growth of the Company, as it acts as a proof of concept for future "scale up" facilities in Calgary, the Greater Toronto Area and the Pacific Northwest, USA. The Company expects to continue to refine and optimize the operations of the Empower Pilot Facility going forward.

### **Calgary Empower Facility – Calgary, AB**

On March 3, 2022, the Company announced that the Board of Directors of the Company approved the selection of the City of Calgary, Alberta, Canada as the planned site location for the Company's first asphalt shingle reprocessing scale up facility ("Calgary Empower Facility"). On September 14, 2022, the Company announced that it signed a non-binding letter of intent for a long-term 15-year lease for an industrial zoned property of 3.98 acres located in Greater Calgary. Based on the independent front-end engineering design ("FEED") study announced on March 31, 2022, the Calgary Empower Facility is expected to be the Company's first modular scale up facility and is expected to be designed and engineered with an estimated capacity of 150–200 tpd. The scale up facility's build and design are part of the Company's national roll out and expansion strategy to operate asphalt shingle reprocessing facilities across North America.

#### **Expected Sequence of Events**

- Enter into long-term offtake agreement with McAsphalt Industries – Executed binding term sheet on October 6, 2022 and currently progressing through definitive agreement documentation
- Enter into long-term lease at the target site selection – Currently in negotiation and expect to enter into a long-term lease agreement in Q4 2022 or Q1 2023
- Complete detailed plant engineering and construction drawings – Expected to commence in H1 2023
- Complete life cycle assessment ("LCA") for Calgary Empower Facility – Completed
- Commence procurement of long-lead item equipment – Currently ongoing and expected to continue throughout 2023
- Complete operational personnel and contractor hiring
- Commence Calgary Empower Facility pre-construction
- Commence Calgary Empower Facility construction
- Commence Calgary Empower Facility Commissioning and ramp up
- Commercial production at Calgary Empower Facility

The Company previously commenced an exploratory site selection process for its first expansion facility. The Company then commenced a detailed geographic target market analysis to evaluate potential site locations. After identifying several potential geographic markets for Northstar's flagship facility, the Company determined that the City of Calgary was the most attractive location for the Company's first expansion facility for the following reasons:

- Strategic center of Canada's "Energy Transition" economy
- Strong provincial, municipal, and community support for emissions reduction projects
- Sophisticated government programs for energy transition projects
- Favorable long-term leasing rates for industrial land
- Abundance of suitable industrial land options located close to landfill(s)
- Significant asphalt shingle supply of an estimated 30,000 to 50,000 tonnes per year
- Close proximity to major industry partners, including shingle manufacturers and off-take partners
- Abundance of highly skilled labour for engineering, materials handling and hydrocarbon processing
- A clear road map for non-dilutive project financing and government grants

Final site selection and other construction terms are subject to several factors, including local support and final approval by the Company's Board of Directors. Upon securing financing and receiving required environmental and operating permits, the Company plans to begin construction on the Calgary Empower Facility. The Calgary Empower Facility will operate under "Empower Environmental Solutions Calgary Ltd.", a wholly owned subsidiary of the Company.

**NORTHSTAR CLEAN TECHNOLOGIES INC.**  
**Management's Discussion and Analysis**  
**September 30, 2022**

---

**KEY DEVELOPMENTS – 2022**

**Q1 2022**

- On January 11, 2022, the Common Shares commenced trading on the OTCQB in the United States under the ticker symbol “ROOOF” and, in addition, the Common Shares became eligible for book-entry and depository services with DTC, a subsidiary of The Depository Trust & Clearing Corp.
- On February 7, 2022, the Company announced the appointment of Ms. Kellie Johnston as Chief Sustainability Officer and General Counsel.
- On February 17, 2022, the Company announced that it had initiated steady state production at the Empower Pilot Facility with the expectation that the facility will deliver throughput of asphalt shingles in the range of 10-20 tpd up to 4-5 days per week. It was also announced that the two primary output products (liquid asphalt and aggregate) were being produced exactly as designed, meeting the Company’s end product specifications. The production of specification products enabled the Company to deliver samples of its reprocessed asphalt and aggregate to multiple road construction companies, shingle manufacturers, and other industry stakeholders. The samples enable detailed technical analysis to be carried out by a wide range of the Company’s potential customers. Internal testing capability was also implemented at the Empower Pilot Facility, enabling the development of a quality assurance program for the Company’s reprocessed products.
- On March 3, 2022, the Company announced that as part of its commitment to quality, it received positive testing results from an independent third-party testing facility for two of its outputs, liquid asphalt and aggregate. These independent third-party test results for liquid asphalt and aggregate confirmed that these products meet the Company’s end product specification objectives.
- On March 17, 2022, the Company announced that the Board approved the selection of the City of Calgary, Alberta, Canada as the planned site location for the Calgary Empower Facility. The Calgary Empower Facility is intended to be the Company’s first asphalt shingle reprocessing facility to be built based on the Company’s FEED. Accordingly, it will be the Company’s first modular facility designed and engineered with an estimated capacity of 150–200 tpd. The Calgary Empower Facility’s build and design are part of the Company’s national roll out and expansion strategy to operate asphalt shingle reprocessing facilities across North America. The FEED for the Calgary Empower Facility was completed in Q1 of 2022.
- On March 29, 2022, Northstar announced that it executed an investment agreement dated March 3, 2022, with Alberta Innovates, a provincial Crown corporation and Alberta’s largest research and innovation corporation. Alberta Innovates reviewed Northstar’s application and approved a total of \$200,000 in funding towards the estimated \$675,000 of direct engineering costs for its proposed Calgary Empower Facility.
- On March 31, 2022, Northstar announced that it had received a FEED from BBA for its proposed Calgary Empower Facility to be constructed in Calgary, Alberta. The FEED, which provided a pre-feasibility level capital estimate, outlined direct costs of \$8.6 million, including equipment costs of \$7.1 million and labour and materials of \$1.5 million, and indirect costs of \$1.2 million, totalling direct and indirect costs of \$9.8 million. With a 20% contingency, the total capital cost estimate was approximately \$11.75 million.

**Q2 2022**

- On April 1, 2022, Northstar announced the preliminary project economics results from its internal management-prepared economic analysis for its planned Calgary Empower Facility based on the FEED design.
- On May 26, 2022, Northstar announced the positive results of a second independent carbon dioxide equivalent (“CO<sub>2</sub>e”) LCA completed by Burgess Environmental Ltd. (“Burgess”) for selected performance indicators for Northstar's planned Calgary Empower Facility. The LCA is based on sophisticated modelling from the FEED. The LCA assessed the impacts and benefits of reprocessing asphalt shingles and compared them to the impacts and benefits related to the disposal of discarded or defective asphalt shingles in landfills and virgin production of asphalt shingles.

## NORTHSTAR CLEAN TECHNOLOGIES INC.

### Management's Discussion and Analysis

September 30, 2022

---

- On May 31, 2022, Northstar announced the details of its refocused expansion plans following the review of its Phase 1 Expansion Program. The Company recently completed a wide engagement of potential financing partners for its proposed Phase 1 Expansion Program in Calgary, Toronto, and the Pacific Northwest, anticipated to be strategically implemented over the next two years.

#### Q3 2022

- On July 4, 2022, Northstar announced the mailing of the management information circular which proposed the re-election of six directors for the ensuing year, the reappointment of the Company's auditors, and the approval of a 10% rolling plan for stock options and a fixed plan of 6,500,000 common shares for awards of restricted share units ("RSUs"), performance share units ("PSUs") and deferred share units ("DSUs"). It also announced that it issued an aggregate of 355,925 RSUs and 3,559,278 PSUs to officers and key employees of the Company.
- On July 29, 2022, Northstar announced the results of the annual general meeting and that all matters that were voted on were approved.
- On August 3, 2022, Northstar announced that it received its brokering license from Metro Vancouver for collection of asphalt shingles and associated tipping fees at the Empower Pilot Facility.
- On August 16, 2022, Northstar announced that it completed a non-brokered private placement for 1,250,000 common shares at \$0.40 per share with Renewable U Energy Inc. ("Renewable U").
- On August 29, 2022, Northstar announced an operational update for the Empower Pilot Facility.
- On September 14, 2022, Northstar announced that it signed a non-binding letter of intent for a long-term 15-year lease for an industrial zoned property of 3.98 acres located in Greater Calgary.
- On September 29, 2022, Northstar announced that it has signed a purchase order agreement with a major international manufacturer engaged in the production of asphalt roofing systems. The Customer agreed to purchase 80 tonnes of liquid asphalt produced from the Empower Pilot Facility.

#### Subsequent to Q3 2022

- On October 4, 2022, Northstar announced a strategic partnership through the execution of a binding term sheet with Renewable U to fully fund Northstar's Phase 1 Expansion Program through financing of over \$43.5 million, including the issuance of 4,875,000 Northstar common shares to Renewable U at \$0.40 per share, secured three-year convertible debentures bearing interest at 6% annually convertible after year 2 at \$0.50 per share, debt of \$36 million for three facilities at \$12 million per facility, and the issuance of 4,500,000 non-transferrable purchase warrants to acquire Northstar common shares at a price of \$0.60 per share for a period of two years with an acceleration clause at \$1.25 per common share. The net proceeds of the Security Financing will be used for funding development of Northstar's Calgary Empower Facility, further development of the Northstar's Empower Pilot Facility, and for general corporate purposes and working capital.
- On October 6, 2022, Northstar announced the execution of a binding term sheet for a 5-year (with automatic 3-year renewal options) offtake agreement with McAsphalt Industries Inc. ("McAsphalt"), a wholly owned subsidiary of the Colas Group ("Colas") (XPAR:RE), whereby McAsphalt will purchase, on an exclusive basis, 100% of the liquid asphalt production from the Calgary Empower Facility.
  - **About McAsphalt:** For over 50 years, McAsphalt has been the industry's top asphalt expert, offering asphalt products and services from over 27 strategically located terminals across Canada, coast to coast to coast. A world leader in the construction, recycling, and maintenance of transportation infrastructure.
  - **About Colas:** Colas Canada is a Canadian leader in transportation infrastructure - materials, construction, rehabilitation, preservation and maintenance of roads, highways, airport runways, port, industrial and logistics infrastructure, subdivisions, urban infrastructure, parking lots and more. Colas companies in Canada are part of the Colas Group (XPAR:RE) a world leader in the construction, recycling, and maintenance of transportation

# NORTHSTAR CLEAN TECHNOLOGIES INC.

## Management's Discussion and Analysis

September 30, 2022

---

infrastructure.

- **Status:** The precise terms of the five-year off-take agreement with McAsphalt will be incorporated into a definitive agreement (the "Definitive Agreement") to be negotiated between McAsphalt and Northstar, which is currently ongoing and expected to be signed in Q4 2022.
  - **Pricing:** The agreed terms of the sale price of the liquid asphalt are confidential due to commercial sensitivity reasons, but the pricing is market based and includes the market index, a quality and locational differential, and a sustainability premium.
  - **Risk Management:** Risk management pricing is also incorporated into the pricing mechanism.
  - **Third Party Sales:** Northstar and McAsphalt will have the ability to enter into third party sales agreements for the liquid asphalt product produced from the Empower Calgary Facility. The detailed terms of any third-party sales are confidential.
  - **Planning, Regulatory and Government Agency Support:** McAsphalt will support Northstar in planning, regulatory and government agency engagement with respect to the Empower Calgary Facility.
  - **Carbon Credits:** Northstar and McAsphalt will work together on the development of a protocol to create carbon credits. Should carbon credits be created, the sustainability premium will be calculated based on the joint contribution to the protocol development.
- On November 8, 2022, the Company announced that it has been issued a patent for the Company's front-end technology for reprocessing asphalt shingles by the United States Patent and Trademark Office ("USPTO"). This patent is expected to remain in force until 2042. Further, Northstar has filed follow-on continuation patent applications with the USPTO. As well as an application for patent approval in Canada and plans to file a Patent Cooperation Treaty international application.
  - On November 15, 2022, the Company completed an internal transaction with its wholly-owned subsidiary, Empower Environmental Solutions Ltd. ("Empower") in which the Company acquired intellectual property related to the Company's proprietary shingle reprocessing technology (the "Technology"). In consideration, the Company designated a new series of its previously authorized preferred shares, designated as the Series A Preferred Shares, and it issued all 1,000 of those Series A Preferred Shares (collectively, the "Consideration Shares") to Empower at a deemed price per share of \$3,580. Following the issuance of the Consideration Shares, the Company approved the redemption of the Consideration Shares in accordance with their special rights and restrictions.
  - On November 17, 2022 the Company announced the first collection of previously landfill bound asphalt shingles at the Company's asphalt shingle reprocessing facility in Delta, British Columbia.
  - On November 18, 2022 the company announced a corporate and intellectual property update.

### PERFORMANCE SUMMARY

The following is a summary of the significant events and transactions that occurred during the nine months ended September 30, 2022 and for the previous period to the report date hereof:

- (a) During the nine months ended September 30, 2022
  - On January 18, 2022, the Company incorporated Empower Environmental Solutions Calgary Ltd.
  - On January 20, 2022 the Company incorporated Empower Environmental Solutions Toronto West Ltd.
  - the Company spent \$654,244 on acquisitions of plant equipment.
  - the Company spent \$1,009,781 in research and development expenses.
  - Empower repaid \$61,863 in loan repayments.
- (b) During the year ended December 31, 2021
  - the Company spent \$1,050,129 on acquisitions of plant equipment
  - the Company sold a piece of equipment that was not suitable for \$24,000 incurring a loss of \$80,000
  - the Company wrote-off \$109,321 of equipment that failed during testing.
  - the Company spent \$633,461 in research and development expenses.
  - Empower repaid \$1,917,265 in loan principal.

**NORTHSTAR CLEAN TECHNOLOGIES INC.**  
**Management’s Discussion and Analysis**  
**September 30, 2022**

- Empower renegotiated a new 5-year lease agreement on its premises effective January 1, 2021 for an initial term of 5 years with an option to extend for an additional 5 year. The Basic annual rents are as follows:
  - o from January 1, 2021 to December 31, 2022 - \$558,435 per annum
  - o from January 1, 2023 to December 31, 2024 - \$583,563 per annum, and
  - o from January 1, 2025 to December 31, 2025 - \$609,837 per annum
  - o Estimated additional rents are approximately \$126,000 per annum.
- The Company filed a preliminary prospectus dated April 15, 2021 an amended and restated preliminary prospectus dated May 7, 2021, and a final prospectus dated June 18, 2021 and began trading on the TSX Venture Exchange (“TSX-V”) on July 13, 2021 under the symbol “ROOF”.
- The Company raised \$12,241,312 on the issue of 34,975,178 Units at a price of \$0.35 per Unit. Each Unit is comprised of one common share in the capital of the Company (each, a “Share”) and one-half of one transferable common share purchase warrant (each whole warrant, a “Warrant”). Each Warrant will entitle the holder thereof to acquire one Share (each, a “Warrant Share”) at a price of \$0.50 per Warrant Share for a period of two years from listing on a public market and such warrants trade on the TSX-V under the symbol “ROOF.WT”. In addition, to the cash portion of the finder’s fees in the amount of \$705,098, 2,014,565 Broker Warrants on Escrow Release valued at \$391,873.
- The Company issued 702,736 shares to settle outstanding loans payable of \$200,000 plus \$45,958 in accrued interest. Each of the directors, being Neil Currie, James Currie, Gordon Johnson, James Borkowski and Gregg Sedun, provided bridge loans totaling \$480,000 in aggregate during the period which were repaid in the same period with interest totaling \$2,495.
- The Company negotiated \$270,000 plus GST and PST in equipment purchases with an offsetting loan with a company controlled by an Officer of the Company.

**Selected Annual Information**

	Year Ended December 31, 2021	Year Ended December 31, 2020	Year Ended December 31, 2019
Loss and comprehensive loss	\$ 7,207,912	\$ 6,596,793	\$ 901,168
Basic and diluted loss per share	0.08	0.16	0.02
Total assets	12,374,613	4,859,762	2,365,966
Total liabilities	3,102,023	2,503,071	2,117,806

**SUMMARY OF QUARTERLY RESULTS**

	September 30, 2022	June 30, 2022	March 31, 2022	December 31, 2021
Total assets	\$ 7,123,935	\$ 8,532,713	\$ 10,180,750	\$ 12,374,613
Property, plant and equipment	3,318,021	3,329,674	3,235,492	3,205,404
Working capital (deficit)	397,412	1,739,915	3,661,725	5,492,200
Shareholders’ equity (deficit)	4,342,589	5,697,220	7,510,032	9,272,590
General and administrative expenses	1,430,191	1,664,057	1,769,094	1,715,220
Loss and comprehensive loss	( 1,960,482)	( 1,940,007)	(2,032,940)	(2,320,211)
Basic and diluted loss per share	(0.02)	(0.02)	(0.02)	(0.02)



**NORTHSTAR CLEAN TECHNOLOGIES INC.**  
**Management’s Discussion and Analysis**  
**September 30, 2022**

	September 30, 2021	June 30, 2021	March 31, 2021	December 31, 2020
Total assets	\$ 14,281,219	\$ 16,094,979	\$ 12,816,534	\$ 4,859,762
Property, plant and equipment	2,893,593	2,712,702	2,573,141	2,370,872
Working capital (deficit)	7,835,056	9,331,991	(1,358,439)	(62,755)
Shareholders’ equity	11,467,820	12,801,486	1,991,514	2,356,691
General and administrative expenses	1,748,046	1,759,089	1,107,245	5,898,105
Loss and comprehensive loss	(1,902,231)	(1,853,482)	(1,129,859)	(5,894,744)
Basic and diluted loss per share	(0.02)	(0.02)	(0.02)	(0.14)

**Results of Operations**

The following discussion addresses the operating results and financial condition of the Company for the three months ended September 30, 2022, compared with the three months ended September 30, 2021.

**For the three-month period ended September 30, 2022:**

**Loss and comprehensive loss for the period**

The Company had a loss and comprehensive loss for the three-month period ended September 30, 2022, of \$1,960,482 (2021 - \$ 1,902,231). The net increase of \$58,251 in the loss and comprehensive loss for the three-month period ended September 30, 2022 compared to the three-month period ended September 30, 2021 was mainly due a decrease of \$317,855 in General and administrative expenses, with an increase in Research and development expenses of \$286,451, an increase in other items of \$89,656 mainly consisting of foreign exchange gains, interest income and other income, a loss on tax receivable of \$130,522, and an income tax recovery of \$41,802 from a 2021 SR&ED claim. SR&ED refers to the Canadian Government’s “Scientific Research and Development” program. The changes in General and administrative, Research and development expenses and other income are noted below.

**Other income**

During the three-month period ended September 30, 2022, the Company reported interest income of \$3,936 (2021 - \$5,342), a foreign exchange loss of \$1,472 (2021 - \$893 gain), other income of \$2,835 (2021 - \$Nil), and a loss on tax receivable of \$130,522 (2021 - \$Nil) compared to the three-month period ended September 30, 2021. The interest income is due from a net investment in sublease and reported separately from the interest expense of \$3,936 on the lease liability, and the exchange loss is on US currency purchases. Other Income was from a PST rebate and the loss on tax receivable was from a write off of GST Input tax credits that will likely be disallowed by CRA.

**Research and development expenses (“R&D”)**

During the three-month period ended September 30, 2022, the Company reported R&D of \$446,871 compared to \$160,420 for the three-month period ended September 30, 2021. The items that caused the \$286,451 increase is noted in the following:

In comparison to the three-month period ended September 30, 2021:

- Contract consulting fees of \$111,002 (2021 - \$89,255) increased by \$21,747 due to the Company pushing to complete its final phase of testing of the asphalt shingle processing equipment and the use of consultants for its R&D.
- Repairs and maintenance of \$4,255 (2021 - \$7,741) decreased by \$3,486 on repairs and small modifications to the processing equipment as the Company has streamlined the current equipment and has focused most of its attention to new capital equipment.
- Site materials of \$331,614 (2021 - \$63,424) increased by \$268,190 as the Company has continuously increased production and has continued to refine and do numerous tests which consumed materials and equipment, as well as increased costs for health & safety supplies. Equipment rentals also increased to allow testing of different equipment models

**NORTHSTAR CLEAN TECHNOLOGIES INC.**  
**Management's Discussion and Analysis**  
**September 30, 2022**

---

**General and administrative expenses**

General and administrative expenses of \$1,430,191 (2021 - \$1,748,046) are primarily comprised of advertising and promotion, bank charges & interest, consulting fees, depreciation, insurance, IT & communications, office expenses, professional fees, rent and utilities, share-based compensation, transfer agent and regulatory fees, travel, and wages & benefits. The net decrease was \$317,855 compared to the three-month period ended September 30, 2021. Items that caused the net decrease are noted in the following:

In comparison to the three-month period ended September 30, 2021:

- Advertising and promotion of \$91,927 (2021 - \$531,753) decreased by \$439,826 as the Company focused on decreasing its monthly burn rate.
- Bank charges and interest of \$53,055 (2021 - \$65,648) decreased by \$12,593. Accretion interest on new leases on the premises and acquisition of the Northstar lease account for a decrease of \$10,631, and a reduction of bank charge and finance charges of \$1,962.
- Consulting of \$62,865 (2021 - \$138,705) decreased by \$75,840 due to some of the consultants being hired as employees after the Company listed in the public market, causing an increase in wages and benefits and the Company's focus on reducing its monthly burn rate.
- Depreciation of \$284,667 (2021 - \$115,492) increased by \$169,175 mainly due to the Company beginning to depreciate its processing equipment at the Empower Pilot Facility.
- Insurance of \$28,382 (2021 - \$37,049) decreased by \$8,667 due to the renewal rates for D&O and property and plant liability insurance.
- IT and Communications of \$18,321 (2021 - \$1,483) increased by \$16,838 due to additional software licenses and external IT services that were needed to support the business.
- Office and miscellaneous of \$12,583 (2021 - \$4,833) increased by \$7,750 due to an increase in subscription, licences, and general office supplies.
- Professional fees of \$69,725 (2021 - \$92,333) decreased by \$22,608. Legal fees decreased by \$21,445 as the Company required such services to complete its listing in the prior period, and accounting fees decreased by \$1,163.
- Rent and utilities of \$102,616 (2021 - \$44,721) increased by \$57,895 due to the new lease renegotiated and beginning January 1, 2021 which accounted for \$13,138, utilities increased by \$18,111, ground maintenance increased by \$12,196, and the remaining amount of the \$14,450 increase was due to additional office space required.
- Share-based compensation of \$133,794 (2021 - \$568,564) decreased by \$434,770 due to the vesting of the stock options on historical issuances.
- Transfer agent and regulatory fees of \$32,312 (2021 - \$12,033) increased by \$20,279 due to a catchup of supplier invoices.
- Travel of \$60,788 (2021 - \$38,862) increased by \$21,926 as the Company brought in certain consultants to assist in refining its processing equipment as well as travel by the executives to the Delta pilot facility and certain marketing events
- Wages and benefits of \$479,156 (2021 - \$96,570) increased by \$382,586 as the Company hired the Empower management as employees on the RTO and the costs reported in Wages and benefits were previously reported as consulting fees. In addition, the Company hired additional executive staff in 2021 Q4 and 2022 Q1

**For the nine-month period ended September 30, 2022:**

**Loss and comprehensive loss for the period**

The Company had a loss and comprehensive loss for the nine-month period ended September 30, 2022, of \$5,933,244 (2021 - \$4,885,571). The net increase of \$1,047,673 in the loss and comprehensive loss for the nine-month period ended September 30, 2022 compared to the nine-month period ended September 30, 2021 was mainly due to an increase of \$293,777 in General and administrative expenses, an increase in research and development expenses of \$675,711, an increase in other income of \$119,987 mainly consisting of foreign exchange gains, interest income and other income, and a loss on tax receivable of \$130,522 and an income tax recovery of \$41,802. The changes in General and administrative, Research and development expenses and other income are noted below.

## **NORTHSTAR CLEAN TECHNOLOGIES INC.**

### **Management's Discussion and Analysis**

**September 30, 2022**

---

#### **Other income**

During the nine-month period ended September 30, 2022, the Company reported interest income of \$15,181 (2021 - \$16,986), foreign exchange gain of \$1,097 (2021 - \$893), other income of \$12,136 (2021 - Nil), and a loss on tax receivable of \$130,522 compared to the nine-month period ended September 30, 2021. The interest income is due from a net investment in sublease and reported separately from the interest expense of \$12,908 on the lease liability and interest received on GST refunds, the exchange gain is on US currency purchases, other income is from a BC Hydro and PST rebate, and the loss on tax receivable was from a write off of GST Input tax credits that will likely be disallowed by CRA.

#### **Research and development expenses ("R&D")**

During the nine-month period ended September 30, 2022, the Company reported R&D of \$1,009,781 compared to \$334,070 for the nine-month period ended September 30, 2021. The items that caused the \$675,711 increase is noted in the following:

In comparison to the nine-month period ended September 30, 2021:

- Contract consulting fees of \$373,461 (2021 - \$187,003) increased by \$186,458 due to the Company pushing to complete its final phase of testing of the asphalt shingle processing equipment and the use of consultants for its R&D.
- Repairs and maintenance of \$9,093 (2021 - \$22,890) decreased by \$13,797 on repairs and small modifications to the processing equipment as the Company has streamlined the current equipment and has focused most of its attention to new capital equipment.
- Site materials of \$627,227 (2021 - \$124,177) increased by \$503,050 as the Company has started producing product and has continued to refine and do numerous tests which consumed materials and equipment, as well as increased costs for health & safety supplies. Equipment rentals also increased to allow testing of different equipment models.

#### **General and administrative expenses**

General and administrative expenses of \$4,863,157 (2021 - \$4,569,380) are primarily comprised of advertising and promotion, bank charges & interest, consulting fees, depreciation, insurance, IT & communications, office expenses, professional fees, rent and utilities, share-based compensation, transfer agent and regulatory fees, travel, and wages & benefits. The net increase was \$293,777 compared to the nine-month period ended September 30, 2021. Items that caused the net decrease are noted in the following:

In comparison to the nine-month period ended September 30, 2021:

- Advertising and promotion of \$507,598 (2021 - \$536,036) decreased by \$28,438 as the Company focused on decreasing its burn rate in Q2 and Q3.
- Bank charges and interest of \$169,346 (2021 - \$233,165) decreased by \$63,819. Accretion interest on new leases on the premises and acquisition of the Northstar lease account for a decrease of \$31,071, a decrease of Loan interest of \$29,367 due to a principal reduction in the Company's bank loan and a reduction of bank charge and finance charges of \$3,381.
- Consulting of \$237,215 (2021 - \$307,166) decreased by \$69,951 due to some of the consultants being hired as employees after the Company listed in the public market, causing an increase in wages and benefits.
- Depreciation of \$786,394 (2021 - \$346,475) increased by \$439,919 mainly due to the Company beginning to depreciate its processing equipment.
- Insurance of \$99,658 (2021 - \$37,049) increased by \$62,609 due to acquiring D&O and property and plant liability insurance.
- IT and Communications of \$123,884 (2021 - \$3,340) increased by \$120,544 due to money spent on software licenses and external IT services that were needed to support the business.
- Office and miscellaneous of \$43,851 (2021 - \$7,305) increased by \$36,546 was due to an increase in subscription, licences, and general office supplies, and employee health & safety training.
- Professional fees of \$413,213 (2021 - \$426,422) decreased by \$13,209. Legal fees decreased by \$141,586 as the Company required such services to complete its listing in the prior period and has hired in house counsel, offset by increases in Accounting fees of \$69,767 due to extra audit and tax services required, and an increase in other professional fees of \$58,610 due to the hiring of a Health & Safety Officer \$12,841, lab testing of \$4,000 and hiring of a firm to prepare the Company's SRED claims \$41,769.
- Rent and utilities of \$264,495 (2021 - \$120,488) increased by \$144,007 due to the new lease renegotiated and beginning

## **NORTHSTAR CLEAN TECHNOLOGIES INC.**

### **Management's Discussion and Analysis**

**September 30, 2022**

---

January 1, 2021, which accounted for \$39,413, utilities increased by \$44,649, ground maintenance increased by \$15,245 and the remaining amount of the \$44,700 increase was due to additional office space required.

- Share-based compensation of \$533,313 (2021 - \$2,214,528) decreased by \$1,681,215 due to timing of options granted in the current period and the vesting of the stock options on historical issuances.
- Transfer agent and regulatory fees of \$73,133 (2021 - \$88,331) decreased by \$15,198 as the Company listed its shares in a public market on July 13, 2021 and had initial setup fees.
- Travel of \$187,182 (2021 - \$55,800) increased by \$131,382 as the Company brought in certain consultants to assist in refining and promoting the Company's and its processing equipment as well as travel by the executives to the Delta pilot facility and certain marketing events
- Wages and benefits of \$1,423,875 (2021 - \$193,275) increased by \$1,230,600 as the Company hired the Empower management team, including Mr. Gord Johnson and Mr. Terry Charles, as employees on the RTO and the costs reported in Wages and benefits were previously reported as Consulting fees. In addition, the Company hired additional executive staff in Q4 2021 and Q1 2022.

### **LIQUIDITY AND CAPITAL RESOURCES**

The Company's development of asphalt processing activities has been funded to date primarily through the issuance of common shares and loan financings, and the Company expects that it will continue to be able to utilize this source of financing until it develops cash flow from its reprocessing operations. Other than as discussed herein, the Company is not aware of any trends, demands, commitments, events or uncertainties that may result in its liquidity either materially increasing or decreasing at present or in the foreseeable future. Material increases or decreases in the Company's liquidity will be substantially determined by the success or failure of its commercialization of a proprietary process technology for the reprocessing of asphalt shingles and the extraction and recovery of asphalt, fiber and aggregate to be sold and used in asphalt pavement, shingle manufacturing, construction products, and other industrial applications, as well as its continued ability to raise capital.

The Company anticipates spending approximately \$17,500,000 in capital resources on its processing equipment and R&D in the next twelve months.

Currently, the Company's overhead expenses are averaging approximately \$500,000 per month on a consolidated basis (excluding share-based payments on issuance of stock options) during the development and setting up of the asphalt processing plant. The Company assesses its financing requirements and its ability to access equity or debt markets on an ongoing basis. The assessment considers: the stage and success of the Company's evaluation activities to date; the continued participation of the Company's partners in evaluation activities; and financial market conditions. It is possible that future economic events and global conditions may result in further volatility in the financial markets which could negatively impact the Company's ability to access equity or debt markets in the future.

In March 2021, the Company issued 702,736 shares in settlement of \$245,958 in Debt. On March 25, 2021, and March 26, 2021, the Company raised \$12,241,312 on 34,975,178 Subscription Receipts at a price of \$0.35 per Subscription Receipt. The Subscription Receipts incurred \$705,098 in finders' fees payable in cash of which \$352,649 was withheld from the Subscription Receipts and the balance of \$352,449 in finders' fees were paid on Escrow Release. Each Subscription Receipt converted into one unit upon the receipt of the final prospectus by the British Columbia Securities Commission on June 22, 2021. In May 2021, the Company received an aggregate of \$480,000 in loans from each of the directors, being Neil Currie, James Currie, Gordon Johnson, James Borkowski and Gregg Sedun, as bridge loans as the Company completed its public listing and repaid the bridge loans in full in June 2021 from proceeds of the share issuances.

In August 2022, the Company issued 1,250,000 shares to Renewable U in a non-brokered private placement for a subscription price of \$0.40 per share.

As at September 30, 2022, the Company had working capital of \$397,412 compared to working capital of \$5,492,200 as at December 31, 2021. As at September 30, 2022, the Company had cash of \$1,236,920 compared to \$5,948,876 as at December 31, 2021.

Net cash used in operating activities for the nine months ended September 30, 2022, was \$4,044,349 compared to \$2,698,641 for the nine months ended September 30, 2021, consisting primarily of the operating loss for the period and the change in non-cash items.

**NORTHSTAR CLEAN TECHNOLOGIES INC.**  
**Management's Discussion and Analysis**  
**September 30, 2022**

---

Net cash used in investing activities for the nine months ended September 30, 2022, was \$686,919 compared to \$926,928 used in investing activities during the nine months ended September 30, 2021 was consisting of cash used for the acquisition of property, plant and equipment of \$771,876 (2021 - \$524,428), proceeds from government grants on PPE of \$100,000 (2021 - \$Nil), and refundable deposits paid \$15,043 (2021 - \$402,500).

Net cash increase in financing activities for the nine months ended September 30, 2022 was \$19,312 compared to \$9,908,471 provided during the nine months ended September, 2021 which consisted of \$Nil (2021 - \$480,000) in loan proceeds, \$500,000 (2021 - \$12,241,312) in proceeds from share subscriptions, \$61,863 (2021 - \$1,688,918) in loan repayments, \$Nil (2021 - \$705,098) in share issue costs, and \$418,825 (2021 - \$418,825) in lease repayment on IFRS-16 leased premises.

**OFF-BALANCE SHEET ARRANGEMENTS**

The Company has not entered into any off-balance sheet transactions.

**PROPOSED TRANSACTIONS**

On October 4, 2022, Northstar and Renewable U announced that they have entered into a binding term sheet for a strategic financing of debt and securities, including common shares in the capital of the Company and secured convertible debentures for Northstar's proposed Phase 1 plan of building and constructing three scale-up asphalt shingle reprocessing facilities in Calgary, and, as presently intended, both the Greater Toronto Area and the Pacific Northwest, USA. The total amount of the financing is approximately \$43.5 million. The initial \$1 million proceeds due on October 31, 2022 to the Company have not yet been received.

On October 6, 2022, Northstar announced that the Company, along with its wholly owned subsidiary, Empower Environmental Solutions Calgary Ltd., has signed a binding term sheet for a five-year off take agreement with McAsphalt, whereby Northstar will sell and McAsphalt will buy, on an exclusive basis, 100% of the liquid asphalt production at the Company's planned scale up asphalt shingle reprocessing facility in Calgary.

**CHANGES IN ACCOUNTING POLICIES**

**Classification of Liabilities as Current or Non-Current (Amendments to IAS 1)**

The IASB has published Classification of Liabilities as Current or Non-Current (Amendments to IAS 1) which clarifies the guidance on whether a liability should be classified as either current or non-current. The amendments:

- clarify that the classification of liabilities as current or non-current should only be based on rights that are in place "at the end of the reporting period"
- clarify that classification is unaffected by expectations about whether an entity will exercise the right to defer settlement of a liability
- make clear that settlement includes transfers to the counterparty of cash, equity instruments, other assets or services that result in extinguishment of the liability.

The amendment is effective for annual periods beginning on or after January 1, 2023. Earlier application is permitted. The Company does not expect the adoption of this amendment to have a significant impact.

**RELATED PARTY TRANSACTIONS**

As at September 30, 2022, accounts payable and accrued liabilities include \$438,331 (December 31, 2021 - \$178,759) owing to directors and officers and companies with certain directors in common or companies controlled by directors or former directors as follows:

**NORTHSTAR CLEAN TECHNOLOGIES INC.**  
**Management's Discussion and Analysis**  
**September 30, 2022**

<b>Name of Company, Directors and/or Officers</b>	<b>Directors/Officers</b>	<b>September 30, 2022</b>	<b>December 31, 2021</b>
Aidan G. Mills	President & CEO, Director, namely, Aidan G. Mills	\$ 181,771	\$ 112,607
Anacortes Management Ltd	A director, namely, James Currie	\$ 36,000	\$ -
Gord Johnson	A director, namely, Gord Johnson	\$ 68,613	\$ 27,500
Terry Charles	A former director and COO, namely, Terry Charles	\$ 68,613	\$ 30,319
Kellie Johnston	CSO, Namely, Kellie Johnston	\$ 41,667	\$ -
Rosemary Pritchard	CFO, namely, Rosemary Pritchard	\$ 41,667	\$ 8,333
		\$ 438,331	\$ 178,759

During the period ended September 30, 2022 and 2021, the Company paid or accrued the following amounts to directors, officers and companies controlled by directors and former directors or companies having certain directors and former directors in common:

<b>Name of Company, Directors and/or Officers</b>	<b>Directors/Officers</b>	<b>September 30, 2022</b>	<b>September 30, 2021</b>
<b><u>Expenses:</u></b>			
Aidan Mills	President & CEO, Director		
(Wages and benefits)		\$ 187,500	\$ 40,000
(Share-based payments)		\$ 109,105	\$ 279,068
Currie Capital Corp.	A director and former CEO, namely, Neil Currie		
(Consulting fees)		\$ 53,800	\$ 40,000
(Share-based payments)		\$ 24,267	\$ 279,068
Gord Johnson	A director, namely, Gord Johnson		
(Wages and benefits)		\$ 123,750	\$ 67,500
(Share-based payments)		\$ 21,895	\$ 99,419
Gregg Sedun	A director, namely, Gregg Sedun		
(Share-based payments)		\$ 18,897	\$ 118,610
James Borkowski	A director, namely, James Borkowski		
(Share-based payments)		\$ 10,791	\$ 99,419
Anacortes Management Ltd	A director, namely, James Currie		
(Consulting fees)		\$ 54,000	\$ -
(Share-based payments)		\$ 21,582	\$ 198,839
Sead Hamzagic, Inc.	A former Director of Finance, namely, Sead Hamzagic		
(Consulting Fees)		\$ 80,000	\$ 57,000
(Share-based payments)		\$ 62,151	\$ 160,457
Rosemary Pritchard	A CFO, namely, Rosemary Pritchard		
(Wages and benefits)		\$ 150,000	\$ -
(Share-based payments)		\$ 48,949	\$ -
Terry Charles	A former director and COO, namely, Terry Charles		
(Wages and benefits)		\$ 123,750	\$ 67,500
(Share-based payments)		\$ 13,789	\$ 80,228

**NORTHSTAR CLEAN TECHNOLOGIES INC.**  
**Management's Discussion and Analysis**  
**September 30, 2022**

Kellie Johnston	A CSO,			
(Wages and benefits)	namely, Kellie Johnston	\$	130,385	\$ -
(Share-based payments)		\$	35,554	\$ -

**COMMITMENTS**

The Company renegotiated a new lease for the Empower Pilot Facility in Delta, BC effective January 1, 2021 for an initial term of 5 years with an option to extend for an additional 5 year. The basic annual rents are as follows:

- from January 1, 2021 to December 31, 2022 - \$558,435 per annum
- from January 1, 2023 to December 31, 2024 - \$583,563 per annum, and
- from January 1, 2025 to December 31, 2025 - \$609,837 per annum

Estimated additional rents are approximately \$126,000 per annum.

As of the date of this MD&A, the Company is currently in negotiations to potentially execute a long-term lease for its planned Calgary Empower Facility and the Company expects to enter into this lease in Q4 of 2022 or Q1 of 2023.

**LOANS PAYABLE**

	Credit Facility	Shareholder Loans	Directors' Loans	Equipment Loan	Total
<b>Loans payable:</b>					
<b>Balance – December 31, 2020</b>	<b>1,365,557</b>	<b>551,710</b>	-	-	<b>1,917,267</b>
Advances	-	-	480,000	-	480,000
Accrued interest	35,252	16,744	2,495	-	54,491
Repayment of loan and interest	(1,400,809)	(322,496)	(482,495)	-	(2,205,800)
Shares for debt	-	(245,958)	-	-	(245,958)
Equipment received for loan	-	-	-	270,000	270,000
Interest accretion on low interest loan	-	-	-	(30,985)	(30,985)
<b>Balance – December 31, 2021</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>239,015</b>	<b>239,015</b>
Less current portion	-	-	-	(90,000)	(90,000)
<b>Long term portion</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 149,015</b>	<b>\$ 149,015</b>
<b>Balance – December 31, 2021</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>239,015</b>	<b>239,015</b>
Accrued interest	-	-	-	1,863	1,863
Repayment of loan	-	-	-	(61,863)	(61,863)
Interest accretion on low interest loan	-	-	-	14,851	14,851
<b>Balance – September 30, 2022</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>193,866</b>	<b>193,866</b>
Less current portion	-	-	-	(107,112)	(107,112)
<b>Long term portion</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 86,754</b>	<b>\$ 86,754</b>

**Credit Facility:**

The Company previously had a variable rate term loan with a maximum authorized limit of \$1,500,000 with Vancity Savings Credit Union. The credit facility carried an annual interest rate of Vancity Prime + 1.75%, was calculated and payable monthly and secured by a general security agreement and personal guarantees of certain Directors and Shareholders. All amounts due under the credit facility were due on demand and the remaining balance was repaid in December 2021. The amount outstanding as at September 30, 2022 was \$Nil (December 31, 2021 - \$Nil).

**Shareholder loans:**

The Company had a loan payable to a non-related party shareholders in the amount of \$523,520. The loans carried an annual interest rate of 10%, were unsecured and were paid in full in June 2021 of which \$245,958 was settled with the issuance of 702,736 shares (Note 9). The amount outstanding as at September 30, 2022 was \$Nil (December 31, 2021 - \$Nil).

# **NORTHSTAR CLEAN TECHNOLOGIES INC.**

## **Management's Discussion and Analysis**

### **September 30, 2022**

---

The Company had a loan payable to a non-related party shareholder in the amount of \$28,190. The amount was non-interest bearing, is unsecured and was repaid in full in June 2021. The amount outstanding as at September 30, 2022 was \$Nil (December 31, 2021 - \$Nil).

#### Directors' loans:

During the year ended December 31, 2021, the Company had borrowed \$480,000 from directors of the Company. The loans carried an annual interest rate of 6%, were unsecured and were paid in full in June 2021 with interest totaling \$2,495.

#### Equipment loan:

The Company acquired \$270,000 of equipment from a company controlled by a former officer and current employee of the Company during the year ended December 31, 2021. The loan carries an annual interest rate of 1% per annum, secured by the equipment and repayable in monthly instalments of \$5,000 plus interest for the first 6 months and \$10,000 per month plus interest until fully paid. Interest payments begin in July 2022. The equipment loan was recognized as the present value using a 10% market rate of interest. The difference was recognized as a shareholder contribution in reserves on low interest loan. The amount outstanding as at September 30, 2022 was \$193,866 (December 31, 2021 - \$239,015).

## **CAPITAL MANAGEMENT**

The Company's capital comprises its shareholders equity under management. The Company's objectives when managing capital are to safeguard the Company's ability to continue as a going concern in order to pursue the development of its processing technology and to maintain a flexible capital structure which optimizes the costs of capital at an acceptable risk.

The Company manages the capital structure and makes adjustments to it in light of changes in economic conditions and the risk characteristics of the underlying assets. To maintain or adjust the capital structure, the Company may attempt to issue new shares, issue new debt or convertible debt, enter into strategic partnerships, and/or acquire or dispose of assets.

In order to facilitate the management of its capital requirements, the Company prepares expenditure budgets that are updated as necessary depending on various factors, including successful capital deployment and general industry conditions. The Board of Directors does not establish quantitative return on capital criteria for management, but rather relies on the expertise of the Company's management to sustain future development of the business.

In order to maximize ongoing development efforts, the Company does not pay dividends. The Company's investment policy is to invest its short-term excess cash in highly liquid short-term interest-bearing investments with maturities of 365 days or less from the original date of acquisition, selected with regards to the expected timing of expenditures from continuing operations.

To fund future operations, the Company will need to raise funds through future share issuances, issue new debt or dispose of assets, or enter into strategic partnerships

There have been no changes to the Company's approach to capital management during the nine months ended September 30, 2022. The Company is not subject to externally imposed capital requirements.

## **FAIR VALUE OF FINANCIAL INSTRUMENTS AND RISK MANAGEMENT**

### **Financial Risk Management Objectives**

The Company examines the various financial instrument risks to which it is exposed and assesses the impact and likelihood of those risks. These risks may include credit risk, liquidity risk, currency risk and interest rate risk. Where material, these risks are reviewed and monitored.



**NORTHSTAR CLEAN TECHNOLOGIES INC.**  
**Management's Discussion and Analysis**  
**September 30, 2022**

---

---

**Liquidity and Capital Management**

The Company manages its capital to ensure that it will be able to continue as going-concern while maximizing the return to shareholders through the optimization of debt and equity balances.

The capital of the Company consists of items included in Shareholders' Equity of \$4,342,589.

The Company manages its capital structure and makes adjustments in light of changes in economic conditions. To maintain or adjust the capital structure, the Company may issue equity or return capital to shareholders. There were no changes to the Company's approach to capital management during the period ended September 30, 2022. The Company is not subject to externally imposed capital requirements.

**Credit risk**

Credit risk is the risk that a counterparty to a financial instrument will fail to discharge an obligation or commitment that it has entered into with the Company. The carrying amounts of financial assets best represent the maximum credit risk exposure at the reporting date.

Cash is held with reputable banks in Canada. The long-term credit rating of these banks, as determined by Standard and Poor's, was A+.

**Liquidity risk**

Liquidity risk is the risk that the Company will not meet its financial obligations as they become due.

Accounts payables and accrued liabilities are paid in the normal course of business generally according to their terms. In the normal course of business, the Company enters into contracts that give rise to commitments for future minimum payments. As at September 30, 2022, the Company had \$1,236,920 in cash to settle current liabilities of \$1,403,417 and as such, management believes it has exposure to liquidity risk.

**Interest Rate Risk**

Interest rate risk is the risk that the fair value or future cash flows of financial instruments will fluctuate because of changes in market interest rates. The Company is not subject to interest rate risk.

**Foreign currency risk**

The Company is exposed to foreign currency risk to the extent that monetary financial instruments are denominated in United States dollars. The Company has not entered any foreign currency contracts to mitigate this risk. The Company's sensitivity analysis suggests that a 10% change in the rate of exchange between the Canadian and United States dollar would have an insignificant impact on its results of operations as it held nominal financial assets and liabilities denominated in United States dollars.

**Fair Value Measurements Recognized in the Statement of Financial Position**

The following table summarizes the carrying values of the Company's financial instruments.

	September 30, 2022	December 31, 2021
Financial assets at FVTPL (i)	\$ 1,236,920	\$ 5,948,876
Financial liabilities at amortized cost (ii)	\$ 1,006,705	\$ 998,558

(i) Cash

(ii) Accounts payable and accrued liabilities and equity-based compensation payable and loans payable

**NORTHSTAR CLEAN TECHNOLOGIES INC.**  
**Management’s Discussion and Analysis**  
**September 30, 2022**

---

The Company categorizes its financial assets and liabilities measured at the fair value into one of three different levels depending on the observability of the inputs used in the measurement.

The three levels are defined as follows:

- Level 1 – inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2 – inputs to valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.
- Level 3 – inputs to the valuation methodology are unobservable and significant to the fair value measurement.

Cash is measured at fair value using Level 1 inputs. There has been no change to the fair value hierarchy levels during the period.

The fair values of other financial liabilities approximate their carrying value, due to their short-term nature or market rate of interest.

**OUTSTANDING SHARE DATA AS AT SEPTEMBER 30, 2022:**

- a) Authorized Share Capital:  
 Unlimited number of common shares without par value
- b) Issued Share Capital:  
 107,375,903 common shares with a stated value of \$25,198,274
- c) Outstanding stock options:

	Expiry Date	Exercise Price	Number of Options
	February 16, 2026	\$ 0.35	3,300,000
	July 12, 2026	\$ 0.35	2,100,000
	December 15, 2024	\$ 0.35	875,000
	December 15, 2026	\$ 0.35	400,000
	February 7, 2027	\$ 0.35	200,000
	May 31, 2023	\$ 0.35	100,000
	April 19, 2027	\$ 0.35	260,854
	August 30, 2027	\$ 0.35	20,000
<b>Outstanding</b>			<b>7,255,854</b>
<b>Exercisable</b>			<b>6,056,250</b>

- d) Outstanding share purchase warrants:

	Expiry Date	Exercise Price	Number of Warrants
	July 13, 2026	\$ 0.279	4,596,268
Finders warrants	July 13, 2026	\$ 0.279	406,249
	July 13, 2026	\$ 0.465	490,615
Finders warrants	July 13, 2026	\$ 0.465	204,457
	June 22, 2023	\$ 0.500	17,472,584
Broker warrants	June 22, 2023	\$ 0.500	2,014,565
<b>Outstanding and exercisable</b>			<b>25,184,738</b>

**NORTHSTAR CLEAN TECHNOLOGIES INC.**  
**Management's Discussion and Analysis**  
**September 30, 2022**

---

e) Issued Restricted Stock Units and Performance Stock Units:

	Vesting Date	Issued	Cash Settled	Stock settled
Restricted Stock Units	June 23, 2023	130,424	11,785	118,639
Restricted Stock Units	March 31, 2024	130,424	11,785	118,639
Restricted Stock Units	March 31, 2025	130,424	11,785	118,639
Maximum Performance Stock Units	June 23, 2023	1,956,421	769,996	1,186,425
Maximum Performance Stock Units	July 13, 2024	1,956,421	769,996	1,186,425
Maximum Performance Stock Units	July 13, 2025	1,956,421	769,996	1,186,425
<b>Total Restricted Stock Units and Performance Stock Units</b>		<b>6,260,535</b>	<b>2,345,343</b>	<b>3,915,192</b>

- f) Shares held in escrow or pooling agreements: As of the date of this MD&A, there are currently 10,224,555 common shares, and 45,000 warrants held in escrow. In connection with the listing of the Common Shares for trading on the TSXV in July 2021, an aggregate of 17,040,927 Common Shares, and 75,000 Warrants were deposited in escrow with Computershare on June 18, 2021, of which 10% of such Common Shares were released from escrow on the date the Common Shares were listed on the TSXV, and 15% are to be release from escrow every six months thereafter, subject to the provisions provided for in NP 46-201.