

# Dundee Sustainable Technologies Inc.

Management's Discussion and Analysis

Years ended December 31, 2021 and 2020

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# DUNDEE SUSTAINABLE TECHNOLOGIES INC.

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# DUNDEE SUSTAINABLE TECHNOLOGIES INC.

## MANAGEMENT'S DISCUSSION AND ANALYSIS

FOR THE YEARS ENDED DECEMBER 31, 2021

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### BACKGROUND

This Management's Discussion and Analysis ("MD&A") of Dundee Sustainable Technologies Inc. ("DST" or the "Corporation") constitutes management's review of the factors that affected the Corporation's financial and operating performance for the years ended December 31, 2021 and 2020. This MD&A should be read in conjunction with the Corporation's audited consolidated financial statements for the years ended December 2021 and 2020, prepared in accordance with the International Financial Reporting Standards ("IFRS").

This MD&A takes into account all material events that took place up until March 25, 2022, the date on which the Corporation's Board of Directors approved this MD&A. Unless otherwise noted, all figures are in Canadian dollars, the presentation and functional currency of the Corporation.

Additional information regarding the Corporation is available on Sedar at [www.sedar.com](http://www.sedar.com) and on the Corporation's website at [www.dundeetechnologies.com](http://www.dundeetechnologies.com).

### INCORPORATION AND NATURE OF OPERATIONS

#### *Incorporation*

The Corporation was incorporated under the Canada Business Corporations Act on July 22, 1997. The Corporation's head office is located at 2000 Peel, Suite 860, Montréal, Quebec, Canada, H3A 2W5.

The authorized capital of the Corporation consists of an unlimited number of subordinate voting shares and multiple voting shares, each multiple voting share having 10 votes.

Dundee Corporation ("Dundee") retains multiple voting shares of the Corporation, which are convertible, at the option of Dundee, into subordinate voting shares of the Corporation for no additional consideration. The multiple voting shares of the Corporation are not listed on a stock exchange.

As at December 31, 2021, Dundee owns 49.5 million subordinate voting shares and all of the 2.5 million multiple voting shares of the Corporation giving Dundee an 82% equity interest and an 87% voting interest in the Corporation. In addition, Dundee was owed \$10.5 million in long-term debt, including accrued interest.

#### *Overview*

The Corporation is a leader in the development and commercialization of innovative environmentally responsible technologies for the treatment of complex materials in the mining industry. Through the development of patented, proprietary processes, DST extracts precious and base metals from ores, concentrates and tailings, while permanently stabilizing contaminants such as arsenic, antimony and cadmium. These complex mineral resources may not otherwise be extracted with conventional processes because of metallurgical issues, cost, or environmental considerations.

The Corporation's main focus is the commercialization of its two innovative and patented processes (the "Technologies"). As part of the commercialization process, the Corporation has branded these technologies as the CLEVR Process™ (cyanide-free gold extraction) and the GlassLock Process™ (permanent arsenic sequestration in glass).

#### *GlassLock Process™*

DST has designed, built, and patented a method for the permanent stabilization of arsenic from numerous sources, including, but not limited to, arsenopyrite, enargite, cobaltite, flue dusts and environmental remediation. This process is an attractive technique to permanently stabilize arsenic and does so at a significantly lower cost than current alternatives, such as crystalline ferric arsenate or scorodite. This presents the Corporation with numerous opportunities to process materials considered too toxic or uneconomic to be exploited or stabilized using conventional processing methods.

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### **CLEVR Process™**

DST has also developed an advanced proprietary process for the extraction of precious and base metals using sodium hypochlorite to provide a cyanide-free alternative for the exploitation of gold deposits. The primary benefit of this innovative technology is a significantly shorter processing time (1-2 hours) as compared to the cyanide (24-48 hours). In addition, the CLEVR Process™ operates in a fully closed-loop. A key benefit of the closed loop operation is the elimination of the need for costly and environmentally risky tailing ponds. It also provides a reduction of the environmental footprint and produces a dry stacked, inert and stable cyanide-free tailing.

The Corporation has protected its intellectual property by filing patents during the development of its technologies. To date, the Corporation has applied or has been granted patents on 16 different processes, and it has 35 patents granted, published, pending or filed in 18 different countries. These patents expire between 2022 and 2036. The Corporation is in the process of expanding its patent portfolio for both processes and additional jurisdictions as warranted.

Inherent in the commercialization of these processes is significant technology development risk. Each of these processes may require significant additional development, testing and investment prior to final commercialization. There can be no assurance that such technologies will be successfully commercialized, or that output from any use of the Corporation's processes could be produced at a commercial scale at reasonable costs or successfully marketed.

### **Technical Services**

The Corporation also uses its state-of-the-art laboratory and processing facility in Thetford Mines, Quebec to assist other companies with metallurgical services or complete small to industrial scale processing campaigns and testing.

## **RESPONSE TO COVID-19 SITUATION**

The year 2020 was marked by the severity of the coronavirus global outbreak. The Thetford site was temporarily closed as a result of the measures taken by the Quebec provincial government on March 23, 2020. Operations resumed in May 2020 with employees and contractors following the controls and practices that have been established on site. After these safety practices were put in place, the Corporation has not experienced any major disruptions. The Corporation is monitoring developments and has taken appropriate actions in order to mitigate the risk, including safety procedures and contingency plans to continue operations at its plant in Thetford Mines.

## **OPERATIONS DURING 2021**

### **GlassLock Process™**

DST's primary driver in the coming years is expected to be its GlassLock Process™, followed by higher upside from its CLEVR Process™ in the longer run. Using its GlassLock Process™ technology, arsenic, which is a significant and dangerous waste product from the mining industry, can be safely and permanently vitrified in a glass form for disposal at the mine site, smelter or in remediation situations. DST has finalized in 2020 the successful demonstration of its GlassLock Process™ for a metal processing facility in Africa. This important step was followed by the execution of the client's option to buy the exclusive rights on the technology for a period of one year in return for a cash payment of US\$1 million. This is part of a moratorium agreement that includes a five-year renewable exclusive right for copper smelters with a payment of US\$1 million per year; plus an option to extend the right for two more years for US\$2 million per year. In addition to the moratorium agreement, the same client awarded an engineering contract to the Corporation for the design of a full-scale plant, and the decision on the construction is expected to be made in the second quarter of 2022. The Client has exercised its right for a second consecutive year, consequently, DST received another cash payment of US\$1 million during 2021. Recently, the Client confirmed they will not exercise further their option on the moratorium. This is resulting in DST to gain back its full liberty to market and commercialize its GlassLock technology to any copper smelting operations. While the Client ended its right on moratorium, its intention to build a GlassLock plant at their smelter remains intact and is still part of their strategic investment planning. This decision was also reinforced by the completion of a peer review of the technology that confirmed the

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GlassLock process as the more economical and stable solution for the remediation of the arsenic issue at the site.

In addition to the above-mentioned development, the Corporation has made significant progress with its most advanced commercialization project in Ghana. This project with a top tier gold producer has been approved by the investment committee of the Client. This approval came following detailed due diligence on the project and technology including a site visit of the Client delegation in Namibia to visit DST's demonstration plant and interface with DST's other client. The Client in Ghana also confirmed that GlassLock has been selected as the best technology for their project following a 10-year investigation and testing program with many other alternatives for arsenic stabilization thus proving another important confirmation of the merit of the technology in terms of stability and operation costs.

Finally, in addition to the two projects mentioned above, both located in Africa, DST made significant advances on two other North American projects. The most important in terms of level of advance is located in Abitibi where the Client has inherited a legacy arsenic issue on its gold property that is containing about 4.6Moz of gold resources. In order to continue the development of the project, the Client now needs to execute a remediation project for the legacy material and DST was selected as the best technology for this project. As such, DST has completed a program in laboratory that demonstrated the amenability of the material for its technology. In addition, an engineering study was performed including environmental stability characterization and leaching tests on the final product that also confirmed the meeting of the environmental regulation. At this point in time, DST is working with the Client to fine-tune the business orientations of the project and is supporting their actions in preparation for the permitting process of the project.

### **CLEVR Process™**

DST is also commercializing its CLEVR Process™ to address the growing pressure from communities and governmental authorities over the use of cyanide in gold extraction. This proprietary process for the extraction of precious and base metals uses a relatively benign reagent, sodium hypochlorite, as opposed to the more toxic cyanide as an alternative for the exploitation of gold deposits. The primary benefit of this innovative technology is a significantly shorter processing time (1-2 hours) as compared to the cyanide (24-48 hours). In addition, the CLEVR Process™ operates in a fully closed-loop. A key benefit of the closed-loop operation is the elimination of the need for costly and environmentally risky tailing ponds. It also reduces the environmental footprint by producing a dry stacked, inert and stable cyanide-free tailing. DST is working with customers that seek alternative processes that can extract gold without the environmental liabilities associated with cyanide, while still maintaining control over the deleterious elements such as arsenic, mercury and antimony. DST offers a competitive alternative to the cyanidation process.

During 2021, DST has completed a technology transfer with Newmont Corporation ("Newmont") so that their group in Colorado can reliably duplicate the CLEVR process at laboratory scale. This is part of a technology transfer agreement with Newmont that was just renewed as of the end of 2021.

In addition, DST has worked with Newmont on a selected project in a jurisdiction where cyanide has been banned. Newmont is the owner of a gold project with significant resources that cannot go into production due to cyanide restrictions. DST is currently developing a project with Newmont in which DST would provide a pilot plant to be transported to site for an on-site demonstration of the technology. A proposal is currently being prepared by DST and shall be submitted to Newmont in 2022 in that regards. The approval of such piloting program would represent a break-through for the CLEVR process and could significantly accelerate other opportunities as well.

### **Technical Services**

DST continues to build its technical services business and under the terms of these contracts, the Corporation will provide technical services in markets such as aluminum by-products, fertilizers, lithium, cobalt, nickel, magnesium, graphite and gold. Contributions from these contracts will help to offset developmental and operating costs related to its primary Technologies. During last quarter, the Corporation continued the project of processing 3,800 tonnes of material with its plant in Thetford Mines. This project is expected to generate about CDN\$3.5 million in revenues over the next 2-3 years. As of the end of 2021, DST has processed about 1,000 tonnes of the material and had made great progress in terms of processing stability and capacity. This

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project will remain the most significant revenue generator for the Corporation in 2022 and thus provide an inflow of cash to support the Corporation while the Technologies are being commercialized.

### BUSINESS STRATEGY

The growing pressure from communities and government authorities over the use of cyanide in various jurisdictions around the world is forcing developing gold projects to seek alternative processes that can extract the gold without the environmental liabilities associated with cyanide, while maintaining control over the deleterious elements such as arsenic, mercury and antimony.

DST offers a competitive alternative to the cyanidation process. Technologies are at the forefront of the mining industry's innovative extraction processes and cater to the worldwide growing need for extractive technologies capable of processing refractory and arsenic bearing material. This alternative provides DST leverage to access quality material including material from metallurgical or environmentally constrained deposits.

DST's business plan is focused on controlling both of its Technologies and leveraging them to become a major player in the industry. The Corporation has a unique opportunity to emerge as a stakeholder in multiple mining projects. In the immediate term, DST is focused on advancing its discussions with major gold and copper producing companies on building alternative processing and stabilization processes. The Corporation is currently processing test material for a number of customers. Assuming successful results, the next step is to negotiate the business terms with those customers for commercializing its Technologies.

The Technologies that the Corporation has developed with respect to complex deposits will allow for the development and or advancement of mining projects that would not be viable without its patented Technologies. DST has identified over 100 gold projects that could face significant concerns due to cyanide use, environmental and/or metallurgical constraints. The commercialization of the Corporation's Technologies would enable mining companies to advance those projects which are currently constrained because of the refractory or toxic nature of their deposits. Discussions are ongoing with a number of mining companies to help advance these otherwise stranded deposits.

### INFORMATION ON EQUITY

The authorized capital of the Corporation consists of an unlimited number of subordinate voting shares and multiple voting shares, without nominal or par value. The holders of subordinate voting shares are entitled to one vote for each subordinate voting share and the holders of multiple voting shares are entitled to ten votes for each multiple voting share. The holders of subordinate voting shares and multiple voting shares shall be entitled to receive and to participate equally as to dividends, share for share, in an equal amount on all the subordinate voting shares and multiple voting shares at the time outstanding. The holder of multiple voting shares shall be entitled at any time and from time-to-time to have any or all of the multiple voting shares converted into subordinate voting shares based on one subordinate voting share for each multiple voting share. In all other respects, the holders of subordinate voting shares and multiple voting shares shall rank equally and the same rights and restrictions.

	<b>March 25, 2022</b>
Subordinate voting shares issued	64,195,774
Options	5,030,000
Warrants	714,285
<b>Total – fully diluted subordinate voting shares</b>	<b>69,940,059</b>
<b>Multiple voting shares issued (each multiple voting share has 10 votes)</b>	<b>2,500,000</b>

(1) At March 25, 2022, Dundee owned 49.5 million subordinate voting shares of the Corporation (77.18%) and all of the outstanding multiple voting shares.

### STOCK OPTION PLAN

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The Board of Directors of the Corporation has full and final discretion to designate the persons who are to be granted options and to determine such number of options as well as their exercise price and vesting period. The exercise price shall not be less than that permitted under the rules of any stock exchange on which the subordinate voting shares are listed. The purpose of the stock option plan is to serve as an incentive for the directors, officers, employees and service providers who will be motivated by the Corporation's success as well as to promote ownership of common shares of the Corporation by these people. There is no performance indicator relating to profitability or risk attached to the plan.

In September 2020, the Corporation granted a total of 4,700,000 stock options to its directors, officers and employees. These options are exercisable at \$0.35 per share, with one third vesting immediately and one third vesting annually over the next two year and expire on the fifth anniversary of their date of issuance.

### **FINANCING ACTIVITIES**

#### **Year ended December 31, 2021**

##### *Promissory note from a Related Party*

On September 8, 2021, the Corporation signed an additional promissory note in the principal amount of \$550,000, payable to a wholly owned subsidiary of Dundee. The promissory note has a maturity date of July 13, 2023 along with interest at a rate of 8% per annum. As at December 31, 2021, the principal amount of the promissory note totaled \$1,000,000.

##### *Contribution Agreement*

In 2016, the Corporation received from Canada Economic Development for Quebec Regions ("CED") a \$397,000 repayable contribution (the "CED Contribution"). During 2021, the Corporation repaid a total of \$56,712 of the principal amount (2020 – \$4,726).

##### *Convertible Debenture*

On July 31, 2020, the Corporation entered into a debt settlement agreement with Investissement Quebec ("IQ"), with respect to the settlement of a portion of the debt by the issuance of subordinated voting shares in the capital of the Corporation to IQ. The principal amount of the debenture amounts to \$4,000,000 with a maturity date to July 13, 2023. As part of the agreement, on August 2, 2021, the Corporation made a partial payment to the capital in the amount of \$50,000.

##### *IQ Innovation Loan*

On July 15, 2020, the Corporation received a loan offer from IQ for a total amount of \$1,107,500. The loan has been granted under IQ's Support for Innovation Program and will be used by the Corporation to apply against business development expenses (the "IQ Innovation Loan"). IQ advanced \$428,100 on December 14, 2020, and \$296,806 on August 9, 2021. The IQ Innovation Loan will mature six years from the initial disbursement and will bear interest at a rate of 3.04% per annum. The Corporation will benefit from a 24-month moratorium period on the repayment of capital since the first disbursement, after which, the capital will be reimbursed in 48 monthly installments. The Financing is secured by a second-degree hypothec over all of the Corporation's property other than the intellectual property.

#### **Year ended December 31, 2020**

##### *Promissory note from a Related Party*

During 2020, the Corporation signed three promissory notes in the total principal amount of \$1,145,000 payable on demand to a wholly owned subsidiary of Dundee along with interest at a rate of 18% per annum. On July 31, 2020, the Corporation entered into a debt settlement agreement with respect to the promissory notes to convert the outstanding amount into subordinate voting shares. At the date of the conversion, the principal amount of the promissory notes totaled \$5,884,000 and the finance cost accrued during 2020 amounted to \$589,038.

On September 16, 2020, the Corporation signed a promissory note under new terms for a total amount of \$450,000, payable to a wholly owned subsidiary of Dundee. The new promissory note has a maturity date of July 13, 2023 along with interest at a rate of 8% per annum.

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## **MANAGEMENT'S DISCUSSION AND ANALYSIS**

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As at December 31, 2020, the principal amount of the promissory note totaled \$450,000 and the finance cost accrued during 2020 amounted to \$10,525.

On December 14, 2020, IQ advanced a loan of \$428,100 to the Corporation as part of IQ's Support for Innovation Program (the "IQ Innovation Loan"). The IQ Innovation Loan will mature six years after the initial disbursement and will bear interest at a rate of 3.04% per annum. The Corporation will benefit from a 24-month moratorium period on the repayment of capital since the first disbursement, after which, the capital will be reimbursed in 48 monthly installments. The Financing is secured by a second-degree hypothec over all of the Corporation's property other than the intellectual property.

### **INVESTING ACTIVITIES**

No investing activities were performed in 2021. In 2020, the Corporation agreed to sell its investment in shares in a related company for total proceeds of \$88,750.

### **LIQUIDITY, GOING CONCERN AND WORKING CAPITAL**

On December 31, 2021, the working capital position of the Corporation was a negative \$227,844 (a positive \$56,042 as at December 31, 2020). This working capital includes \$400,000 of accrued liabilities payable to Dundee. Management estimates that the Corporation will not have sufficient funds to meet its obligations and budgeted expenditures through the twelve months ended December 31, 2022. The above-noted facts and circumstances cast significant doubt on the Corporation's ability to continue as a going concern. The Corporation will periodically have to raise additional funds to continue operations. The Corporation is pursuing financing alternatives to fund its operations and working towards developing its activities to operate as a going concern. Although there is no assurance that the Corporation will be successful in these actions, management believes, based on previous fund-raising experience and commercial activities, that it will be able to secure the necessary financing. Financings could be completed through the issuance of debt or new equity in public or privately negotiated equity offering. While it has been successful in doing so in the past, there can be no assurance that it will be able to do so in the future.

### **DISCUSSION AND ANALYSIS OF OPERATIONS**

#### ***Revenues***

During 2021, the Corporation processed material for a number of customers, including major gold producers, for testing of ores and concentrates using the Corporation's Technologies. As well, exploration and development companies in other commodities such as aluminum, nickel, graphite and lithium utilized the Corporation's facilities and highly skilled personnel for the advancement of their projects.

The Corporation provided its technical expertise and its facilities to these companies to evaluate the development of their projects using the Corporation's Thetford Mines facility including its CLEVR Process™ for precious metal extraction and/or its GlassLock Process™. The technical services may serve to demonstrate the efficiency of the Corporation's facilities and technical staff at the laboratory and/or pilot scales on specific projects in need of viable processing alternative and initiate engineering studies required for an industrial implementation.

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Revenues totaled \$4,349,623 during 2021 (2020 – \$3,221,574), with related costs of \$3,384,888 (2020 – \$2,531,806) recorded under operating expenses related to these services. Revenues by line of business were as below:

	2021	2020
	\$	\$
GlassLock Process	1,815,398	2,006,031
CLEVR Process	151,928	143,504
Other service revenues	2,382,297	1,072,039
	<b>4,349,623</b>	<b>3,221,574</b>

The increase in revenue in other service revenues was generated mainly by a fertilizer project and by the processing of 3,800 tonnes of material, under the technical services line of business.

#### **Operating expenses**

The major components of the operating expenses are as follows:

	2021	2020
	\$	\$
Labour	1,252,046	1,035,692
Consultants	963,490	851,561
Consumables	200,024	270,014
Plant overhead	969,328	374,539
	<b>3,384,888</b>	<b>2,531,806</b>

#### **Technology development**

During 2021, the Corporation incurred technology development costs of \$998,347 (2020 – \$1,050,596). These costs relate to research activities at the laboratory, patent maintenance and plant overhead.

The Corporation periodically receives reimbursement of project expenses generated under collaboration agreements and financial assistance under government incentive programs. These compensate the Corporation for expenses incurred and are normally recognized as a reduction to research and development expense on a systematic basis in the same periods in which the expenses are incurred. On a net-of-assistance basis, research and development costs amounted to \$783,117 (2020 – \$119,721).

	2021	2020
	\$	\$
Plant expenses	912,429	958,267
Patent maintenance	85,918	92,329
Technology development	998,347	1,050,596
Net contribution from a related party	-	(192,669)
Sustainable Development Technology Canada Foundation (SDTC) contribution	-	(125,000)
Tax credit and other government subsidies	(147,568)	(501,768)
Government subsidy on IQ loan	(67,662)	(111,438)
<b>Technology development expenses, net</b>	<b>783,117</b>	<b>119,721</b>

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#### *Professional and consulting fees*

	2021	2020
	\$	\$
Legal	7,070	37,597
Audit, audit related work and tax compliance	113,593	118,960
Accounting	7,000	9,737
Other	58,068	12,182
	<b>185,731</b>	<b>178,476</b>

Increase in other professional fees in 2021 relates to business development activities and support for the projects located in Africa.

#### *Administrative expenses*

	2021	2020
	\$	\$
Insurance	205,409	165,400
Rent and lease operating expenses	31,386	73,932
Website and technical support	24,755	18,542
Travel and accommodations	4,036	12,032
Telecommunications and others	28,067	29,353
	<b>293,653</b>	<b>299,259</b>

The increase in insurance expense was due to the renewal of our policies. Canadian and companies that are domiciled in Quebec in particular, have seen a significant upward pressure on rating and tightening of underwriting parameters.

The decrease in travel and accommodations expenses is related to the travel restrictions due to the COVID-19 pandemic.

#### *Wages and compensation*

	2021	2020
	\$	\$
Employees	427,073	471,473
Officer compensation	59,784	143,510
Director fees	34,000	34,000
	<b>520,857</b>	<b>648,983</b>

Officer compensation relates to the President and Chief Executive Officer's (CEO) compensation. The remuneration of the actual CEO is based on a monthly rate of \$16,667. A portion of the remuneration of the actual CEO is allocated to operating expenses to account for his work provided to service contracts.

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### Other (Gains) and Losses

	2021	2020
	\$	\$
Interest expenses on:		
Dundee loans and Dundee promissory notes	774,698	1,495,507
Dundee accretion expense	225,684	78,746
IQ loan	355,771	378,506
IQ loan accretion expense	153,016	67,513
CED Contribution accretion expense	29,960	11,970
Interest expense on leases	124,038	137,184
Other interest expense	6,512	2,178
Finance income on debt valuation	(28,957)	(1,065,573)
Gain on debt settlement	-	(1,347,626)
Gain on disposal of investment	-	(29,500)
Other income	(118,868)	(28,921)
	<b>1,521,854</b>	<b>(300,016)</b>

### SELECTED QUARTERLY INFORMATION

The following table sets forth selected historical financial information for the Corporation from the last eight quarters. Such information is derived from the Corporation's interim unaudited consolidated financial statements prepared in accordance with IFRS.

	Q4-21	Q3-21	Q2-21	Q1-21
	\$	\$	\$	\$
Total revenue	1,109,727	1,174,537	1,352,206	713,153
Operating income (loss)	(221,744)	(593,036)	(339,401)	(657,514)
Net income (loss) and comprehensive income (loss)	(599,892)	(965,265)	(754,283)	(1,069,215)
Basic and diluted net income (loss) per share	(0.01)	(0.02)	(0.01)	(0.02)
	Q4-20	Q3-20	Q2-20	Q1-20
	\$	\$	\$	\$
Total revenue	834,817	861,173	1,047,939	477,645
Operating income (loss)	109,628	(809,834)	34,687	(965,276)
Net income (loss) and comprehensive income (loss)	1,044,845	(288,543)	(573,010)	(1,520,778)
Basic and diluted net income (loss) per share	0.02	(0.006)	(0.031)	(0.083)

For the quarter ended September 30, 2020, net loss and comprehensive loss was overstated by \$ 1,347,626 as a result of a gain on debt settlements which should have been accounted for during the three months period ended on September 30, 2020, rather than in the last quarter. For the year ended December 31, 2020, the Gain on debt settlements is adequately accounted for.

# DUNDEE SUSTAINABLE TECHNOLOGIES INC.

## MANAGEMENT'S DISCUSSION AND ANALYSIS

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### SELECTED ANNUAL INFORMATION

The following is a summary of selected annual information for the Corporation's last three fiscal years:

	2021	2020	2019
	\$	\$	\$
Revenue from continuing operations	4,349,623	3,221,574	1,372,025
Net loss from continuing operations	(3,388,655)	(1,337,486)	(5,553,234)
Net loss	(3,388,655)	(1,337,486)	(5,553,234)
Basic and diluted loss per share	(0.05)	(0.05)	(0.30)
Total assets	5,206,574	6,220,163	6,076,105
Non-current liabilities	(15,915,851)	(13,883,887)	(1,524,323)

Key items impacting the Corporation's financial results over the period from 2019 to 2021 include:

- Revenue from a moratorium agreement with a payment of US\$1 million per year, starting in 2020 and continuing in 2021.
- Increase on technical service contracts in 2020 and 2021 for the processing of 3800 tons of material.
- A debt settlement agreement generated again of \$1.3 million in 2020.
- A debt settlement agreement in 2020 reduced the level of interest expense in 2020 and 201. It also converted the current liabilities to non-current liabilities.

### FOURTH QUARTER

#### *Operating Activities*

The Corporation reported a net loss of \$553,819 for the fourth quarter of 2021 ("Q4-2021") compared to a net income of \$1,044,845 for the same period last year ("Q4-2020"). The main reasons for the variance are:

- a) Gain on debt settlement of \$1,347,626 accounted for in Q4-2020 with respect to the settlement of a portion of various debts of the Corporation;
- b) Revenues of \$1,109,727 during Q4-2021 from service contracts compared to \$834,817 in Q4-2020. The increase was due to non-recurrent service contract performed during Q4-2021; and
- c) During Q4-2021, research and development expenses totaled \$167,314 compared to a benefit of \$212,277 in Q4-2020 on a net basis from grants and tax credits. During Q4-2020, a contribution of \$125,000 was received from SDTC for the conclusion of the arsenic demonstration plant project.

#### *Investing Activities*

No investing activities were performed during Q4-2021.

#### *Financing Activities*

No financing activities were performed during Q4-2021.

Long-term IQ Innovation loan – During Q4-2020, an amount of \$428,100 was advanced to the Corporation. The loan will mature six years after the initial disbursement and will bear interest at a rate of 3.04% per annum. The Corporation will benefit from a 24-month moratorium period on the repayment of capital since the first disbursement, after which, the capital will be reimbursed in 48 monthly installments.

# DUNDEE SUSTAINABLE TECHNOLOGIES INC.

## MANAGEMENT'S DISCUSSION AND ANALYSIS

FOR THE YEARS ENDED DECEMBER 31, 2021

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### OUTLOOK FOR 2022

The Corporation continues to move towards the commercialization of its Technologies and seeking to maximize the value of all of its assets to accelerate this growth. The Corporation has numerous initiatives that it will execute to ensure success.

#### ***Glasslock Process™***

The Corporation completed the delivery of the industrial demonstration GlassLock plant onsite a mineral processing facility in 2019. During that year, the Corporation successfully performed a demonstration campaign and presented the technical report to the customer. The Corporation then received a mandate from the client to perform the basic engineering phase for a full-scale implementation on site. The customer also exercised the option for a moratorium on the promotion of the technology to other copper smelters for a period of one year, in return for a payment of US\$1,000,000. The Corporation also intends to use results from this program to position the technology for adoption by other customers around the world. While the Client has experienced operating challenges with the operation of the smelter in 2021, a decision was made to proceed with complementary engineering study that will be required to support the detailed engineering and the permitting phases of the project. Those studies will be performed in Q2 and Q3 of 2022. A decision from the client to proceed with the construction of a full-scale plant is not expected until Q4 of 2022. While this project is facing delays due to general smelting challenges, the commitment for the GlassLock technology remains strong and is still high on the list of the Corporation's most significant projects.

In addition, the Corporation was awarded a mandate for metallurgical testwork and basic engineering report for another industrial implementation of its Glasslock Process in Ghana. The Client of this project is a top tier gold producer, and the execution of an arsenic stabilization project is part of their legal obligation to maintain their mining permit. This site contains legacy flue dusts contaminated by arsenic but also contains recoverable gold. The Corporation successfully demonstrated its ability to extract gold and stabilize the arsenic using its Glasslock Process. As of the end of 2021, the decision was made by the investment committee of the Client to proceed with the project. The next and final step in the approval process is now the approval from the local Environmental Protection Agency ("EPA"). This approval process is led by the Client and supported by DST and is on-going. The approval by the EPA of the project will allow the project to move into commercial agreement and contractual phase which is expected to begin in early Q2/2022 which would lead to a project kick-off before the end of Q2/2022.

#### ***CLEVR Process™***

Since completing the second of two CLEVR Process™ industrial demonstration campaigns, the Corporation has continued to work with major and mid-tier gold producers to test the applicability of the CLEVR Process™ on dedicated gold deposits and to deliver technical & economic studies, designed with the objective of building the first commercial plant in partnership with a strategic partner. The demonstration campaigns established the proof of concept of the Corporation's CLEVR Process for different ore and concentrate streams. DST has been engaged for metallurgical testing programs and flow sheet development for gold customers for the application of the CLEVR Process™ on deposits under development. The Corporation is working with several properties in Asia, South America, Africa and Canada to test their ores and concentrates using the CLEVR Process™.

#### ***Technical Services***

The Corporation owns a state-of-the-art mineral processing and metallurgical (hydro & pyro) facilities which is being made available for test programs ranging from laboratory (kg-scale) to the industrial scale (+1,000 tons). The Corporation is working on two significant technical services projects that could result in revenues of \$3.5 million over the next two years. Management is constantly in discussions with numerous parties with respect to projects that will maximize the value of its Thetford Mines facility.

### OFF BALANCE SHEET ARRANGEMENTS

The Corporation did not enter into any off-balance sheet arrangements during the years ended December 31, 2021 and 2020.

**DUNDEE SUSTAINABLE TECHNOLOGIES INC.**  
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**CONTRACTUAL OBLIGATIONS AND COMMITMENTS**

The contractual obligations of the Corporation include lease payments for the Thetford Mines facilities and the head office in Montreal (Refer to Note 5 to the consolidated financial statements for the years ended December 31, 2021).

**RELATED PARTY TRANSACTIONS**

In addition to the transactions discussed in the financing section, details of related party transactions with the officers and directors of the Corporation and companies they control are as follows:

	2021	2020
	\$	\$
Professional and consulting fees		
Administration <sup>(1)</sup>	222,500	274,477
Legal <sup>(2)</sup>	-	1,906
Director's fees	34,000	34,000
	<b>256,500</b>	<b>310,383</b>

(1) A total of \$222,500 of fees paid to a private company controlled by David Lemieux, President and CEO (\$147,232 from April to December 2020). Additionally, a total of \$121,916 of fees were paid from January to March 2020 to a private company controlled by Brian Howlett, the former President and CEO.

(2) Fees paid to a private company controlled by Luce Saint-Pierre, the former Corporate Secretary.

**ACCOUNTING POLICY CHANGES, CRITICAL ESTIMATES, JUDGMENTS AND ASSUMPTIONS**

The preparation of financial statements in conformity with IFRS requires management to make estimates and assumptions that affect amounts reported in the financial statements and accompanying notes. There is a full disclosure and description of the Corporation's critical accounting policies, estimates, judgments, assumptions in the consolidated financial statements as at December 31, 2021 in notes 1, 2 and 3.

**FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS**

The Corporation is exposed to various financial risks resulting from both its operations and its investments activities. The Corporation does not enter into financial instrument agreements including derivative financial instruments for speculative purposes. The Corporation's main financial risk exposure and its financial risk management policies are disclosed in Note 16 to the annual consolidated financial statements for the years ended December 31, 2021 and 2020.

**RISKS AND UNCERTAINTIES**

The Technologies are relatively new, and the Corporation has limited history of operations that, to date, has consisted primarily of research and development. The Corporation has generated limited revenue from its core technologies and has limited experience in selling or marketing these technologies. The technology has not gained significant market exposure but is beginning to demonstrate market acceptance. Whether the Corporation can successfully manage the transition to a commercial enterprise will depend upon a number of factors, including expanding the sales and marketing capabilities, as well as establishing relationships with strategic partners. Given the limited market acceptance with respect to the Corporation's technologies, there can be no assurance as to the achievability of projected market penetration rates and associated sales revenues.

# DUNDEE SUSTAINABLE TECHNOLOGIES INC.

## MANAGEMENT'S DISCUSSION AND ANALYSIS

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### *Going Concern*

Management estimates that the Corporation will not have sufficient funds to meet its obligations and budgeted expenditures through to December 31, 2022. The Corporation will therefore periodically have to raise additional funds to continue operations. The Corporation is pursuing financing alternatives to fund its operations and to continue its activities as a going concern. Although there is no assurance that the Corporation will be successful in these actions, management believes that it will be able to secure the necessary financing through the issuance of debt or new equity in a public or private equity offering. While it has been successful in doing so in the past, there can be no assurance that it will be able to do so in the future.

Although the referenced consolidated financial statements have been prepared using IFRS applicable to a going concern, the above-noted facts and circumstances cast significant doubt on the Corporation's ability to continue as a going concern.

The referenced consolidated financial statements do not reflect the adjustments to the carrying values of assets and liabilities, to the reported expenses and to the financial position classifications that would be necessary if the going concern assumption was inappropriate. These adjustments could be material.

### *No Independent Evaluation of the Process.*

While the Corporation's research with respect to its technologies has, in the opinion of management, been validated in various applications and while various third parties (without limitation, Dundee Precious Metals Inc.) have carried out due diligence procedures to their satisfaction, there has been no independent evaluation of the Technologies. There can be no assurance that we will be able to achieve our growth strategy and bring the Technologies to commercialization. The inability to bring the Technologies to commercialization could have a material adverse effect on operations.

### *Intellectual Property*

The Corporation relies on patents, trade secrets, trademarks and copyright laws to protect its intellectual property. The patents to which the Corporation currently has rights expire between 2022 and 2036. The Corporation's present or future-issued patents may not protect the Corporation's technological leadership, and the Corporation's patent portfolio may not continue to grow at the same rate as it has in the past. Moreover, the Corporation's patent position is subject to complex factual and legal issues that may give rise to uncertainty as to the validity, scope and enforceability of a particular patent. Accordingly, there is no assurance that: (a) any of the patents owned by the Corporation will not be invalidated, circumvented, challenged, rendered unenforceable; or (b) any of the Corporation's pending or future patent applications will be issued with the breadth of claim coverage sought by the Corporation, if issued at all. In addition, effective patent, trade secret, trademark and copyright protection may be unavailable, limited or not applied for in certain countries.

The Corporation also seeks to protect its proprietary intellectual property, including intellectual property that may not be patented or patentable, in part by confidentiality agreements and, if applicable, inventors' rights agreements with strategic partners and employees. The Corporation can provide no assurance that these agreements will not be breached, that the Corporation will have adequate remedies for any breach, or that such persons or institutions will not assert rights to intellectual property arising out of these relationships.

Management believes that the Technologies do not infringe on the proprietary rights of third parties. There can be no assurance, however, that third parties will not claim such infringement by the Corporation with respect to current or future products or processes. Dealing with any such claims, with or without merit, could be time consuming, result in costly litigation, or require the Corporation to enter into further royalty or licensing agreements, which may or may not be available on terms acceptable to the Corporation. The failure to do any of the foregoing may have a material adverse effect on the Corporation.

# DUNDEE SUSTAINABLE TECHNOLOGIES INC.

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### *Competition*

The Corporation competes with other companies to develop products and services designed to extract precious and base metals. Many of these other companies have substantially greater technical and financial resources than the Corporation. There can be no assurance that developments by others will not materially adversely affect the competitiveness of the Corporation.

The mining industry is characterized by extensive research and development efforts and is going through a period of rapid technological change. Competition can be expected to increase as technological advances are made and commercial applications for extraction of products and services increase. Competitors of the Corporation may use different technologies or approaches to develop products and services similar to products and services which the Corporation is seeking to develop or may develop new or enhanced products and services that may be more effective, less expensive, safer or more readily available before the Companies obtain approval of their products and services. There can be no assurance that the Corporation's products and services will compete successfully or that research and development will not render the Companies' products and services obsolete or uneconomical.

### *Impact of Unfavourable Economic and Political Conditions and Other Developments and Risks.*

Unfavourable global, domestic or regional economic or political conditions and other developments and risks could negatively affect the Corporation's business. For example, unfavourable changes related to interest rates, rates of economic growth, fiscal and monetary policies of governments, inflation, deflation, consumer credit availability, consumer debt levels, tax rates and policy, unemployment trends, commodity prices, oil prices, and other matters that influence, confidence and spending could adversely impact our business and results of operations. In addition, unstable political conditions or civil unrest, including terrorist activities and worldwide military and domestic disturbances and conflicts, may disrupt commerce and could have a material adverse effect on our business and results of operations.

### *Key Personnel*

The Corporation's management team of seasoned and committed industry veterans has achieved success in developing the Corporation's business. The Corporation's continued success and the execution of its growth strategy will depend, in part, on the continued services of this management team.

The Corporation's management team is composed of a relatively small group of senior executive officers. The loss of the technical knowledge, management expertise and knowledge of the Corporation's operations of one or more members of the team could result in a diversion of management resources, as the remaining members of management would need to cover the duties of any senior executive who leaves the Corporation and would need to spend time usually reserved for managing the Corporation's business to search for, hire and train new members of management. The loss of some or all of the Corporation's management team could negatively affect the Corporation's ability to develop and pursue its growth strategy, which could adversely affect its business and financial condition.

In addition, the market for key personnel in the industry in which the Corporation competes is highly competitive, and the Corporation may not be able to attract and retain key personnel with the skills and expertise necessary to manage its business.

### *Ability to Attract and Retain Quality Employees*

The Corporation's business is dependent upon attracting and retaining quality employees. If the Corporation were unable to hire, train and retain employees capable of developing the technology, the Corporation may not be able to maintain its competitive strength and realize on its growth strategy. The Corporation may be unable to commercialize its technologies.

## **DUNDEE SUSTAINABLE TECHNOLOGIES INC.**

### **MANAGEMENT'S DISCUSSION AND ANALYSIS**

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The Corporation's ability to meet its labour needs while controlling the costs associated with hiring and training new employees is subject to external factors such as unemployment levels, prevailing wage rates, minimum wage legislation and changing demographics. Changes that adversely impact the Corporation's ability to attract and retain quality employees could adversely affect its business.

#### *Material Disruption in Computer Systems*

The Corporation relies extensively on its computer systems to process transactions, collect and summarize data and manage its business. Computer systems are subject to damage or interruption from power outages, computer and telecommunications failures, computer viruses, security breaches, catastrophic events such as fires, floods, earthquakes, tornadoes, hurricanes, acts of war or terrorism, and usage errors by our employees. If the Corporation's computer systems are damaged or cease to function properly, the Corporation may have to make a significant investment to fix or replace these systems and may suffer loss of critical data and interruptions or delays in operations in the interim. Any material interruption in the computer systems could adversely affect the Corporation's business or results of operations and reputation.

#### *Regulations*

The Corporation is subject to customs, environmental and other laws. Although the Corporation undertakes to monitor changes in these laws, if these laws change without the Corporation's knowledge, it could be subject to fines or other penalties under the controlling regulations, any of which could adversely affect its business.

#### *Insurance Related Risks*

The Corporation maintains Directors and Officers Insurance, Liability Insurance, Pollution and Property and Liability Insurance. However, there is no guarantee that the insurance coverage will be sufficient, or that insurance proceeds will be paid to the Corporation in a timely manner. In addition, there are types of losses we may incur but against which the Corporation cannot be insured, or which management believes are not economically reasonable to insure, such as losses due to acts of war and certain natural disasters. If the Corporation incurs these losses and they are material, the Corporation's business, operating results and financial condition may be adversely affected. In addition, certain material events may result in sizable losses for the insurance industry and materially adversely affect the availability of adequate insurance coverage or result in significant premium increases. Accordingly, the Corporation may elect to self-insure, accept higher deductibles or reduce the coverage.

#### *Environment*

The Corporation could be liable for environmental damages resulting from its research, development operations.

The Corporation's business is exposed to the risk of harmful substances escaping into the environment, resulting in personal injury or loss of life, damage to or destruction of property, and natural resource damage. Depending on the nature of the claim, the Corporation's current insurance policies may not adequately reimburse us for costs incurred in settling environmental damage claims, and in some instances, we may not be reimbursed at all.

#### *Commodity Risk*

Commodity price risk is the potential adverse impact on earnings and economic value due to commodity price movements and volatilities. The price of gold and precious metals may affect the profitability of the Corporation. Historically, such prices have fluctuated and are affected by numerous factors outside of the Corporation's control, including, but not limited to: industrial and retail demand, central bank lending, forward sales by producers and speculators, levels of worldwide production, short-term changes in supply and demand because of speculative hedging activities and other factors such as significant mine closures.

# DUNDEE SUSTAINABLE TECHNOLOGIES INC.

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### *Cybersecurity Risk*

The Corporation is subject to cybersecurity risks that could compromised the integrity of its operating and financial information. The risks include, but are not limited to, ransomware attacks, unauthorized access to confidential information, destroy data or sabotage our systems through the introduction of computer viruses. In case of a successful attack, the Corporation may suffer a financial loss, disruption of operations, loss of technical data and loss of financial information data which could affect our ability to provide accurate and timely financial reporting. The Corporations takes measures to secure the information systems but there can be no assurance that these measures will fully protect the integrity of the systems and that no such attack will occur in the future

### *Political/Country Risk*

The Corporation currently conducts a very low level of operations in foreign countries as part of its commercialization activities. However, the significant progress in the commercialization of its Glasslock technology may have an impact on its operations in Ghana and Namibia. As such the Corporation could be exposed to various levels of political and economic risks by factors outside of its control. These potential factors include but are not limited to: royalty and tax increases or claims by governmental bodies, expropriation or nationalization, foreign exchange controls, high rates of inflation, extreme fluctuations in foreign currency exchange rates, import and export tariffs and regulations, lawlessness, cancellation or renegotiation of contracts and environmental and permitting regulations. The Corporation is unable to determine the impact of these risks on its future financial position or results of operations. Changes, if any, in investment policies or shifts in political attitude in foreign countries may substantively affect the Corporation's commercialization activities.

### *COVID-19*

The current outbreak of novel Coronavirus (COVID-19) and any future emergence and spread of similar pathogens could have an adverse impact on global economic conditions which may adversely impact the Corporation's operations, and the operations of its suppliers, contractors and service providers, the ability to obtain financing and maintain necessary liquidity. The outbreak of COVID-19 and political upheavals in various countries have caused significant volatility in commodity prices. The outbreak is causing companies and various international jurisdictions to impose restrictions such as quarantines, business closures and travel restrictions. While these effects are expected to be temporary, the duration of the business disruptions internationally and related financial impact cannot be reasonably estimated at this time. The Corporation is monitoring developments and has taken appropriate actions in order to mitigate the risk, including safety procedures and contingency plans to continue operations at its plant in Thetford Mines.

## **FORWARD LOOKING STATEMENTS**

DST's public communications may include written or oral forward-looking statements. Statements of this type are included in this MD&A and may be included in other filings with the Canadian regulators, stock exchanges or in other communications. All such statements constitute forward looking information within the meaning of securities law and are made pursuant to the "safe harbour" provisions of applicable securities laws. Forward looking statements may include, but are not limited to, statements about anticipated future events or results including comments with respect to the Corporation's objectives and priorities for 2022 and beyond, and strategies or further actions with respect to the Corporation, its products and services, business operations, financial performance and condition. Forward looking statements are statements that are predictive in nature, depend upon or refer to future events or conditions or include words such as "expects", "anticipates", "intends", "plans", "believes", "estimates" or similar expressions concerning matters that are not historical facts. Such statements are based on current expectations of the Corporation's management and inherently involve numerous risks and uncertainties, known and unknown, including economic factors and those affecting the technology and resources industries generally. The forward-looking information contained in this MD&A is presented for the purpose of assisting shareholders in understanding business and strategic priorities and objectives as at the periods indicated and may not be appropriate for other purposes.

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A number of risks, uncertainties and other factors may cause actual results to differ materially from the forward-looking statements contained in this MD&A, including, among other factors and without limitation, those referenced in the section above entitled "Risks and Uncertainties". The preceding list is not exhaustive of all possible risk factors that may influence actual results and is compiled based upon information available as of the issuance date of this MDA.

Forward looking statements contained in this MD&A are not guarantees of future performance and, while forward looking statements are based on certain assumptions that the Corporation considers reasonable, actual events and results could differ materially from those expressed or implied by forward looking statements made by the Corporation. Prospective investors are cautioned to consider these and other factors carefully when making decisions with respect to the Corporation and not place undue reliance on forward looking statements. Circumstances affecting the Corporation may change rapidly. Except as may be required by applicable law, the Corporation does not undertake any obligation to update publicly or revise any such forward looking statements, whether as a result of new information, future events or otherwise.

### ADDITIONAL INFORMATION CONCERNING DST

Additional information relating to Dundee Sustainable Technologies may be found on SEDAR at [www.sedar.com](http://www.sedar.com) and the Corporation's website at [www.dundeetechnologies.com](http://www.dundeetechnologies.com).

March 25, 2022

*(s) David Lemieux*

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David Lemieux  
President and CEO

*(s) Arved Marin*

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Arved Marin  
CFO