

PyroGenesis Canada Inc.

**Consolidated Financial Statements
December 31, 2021 and 2020**

PyroGenesis Canada Inc.
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December 31, 2021 and 2020

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PyroGenesis Canada Inc.

Management's Responsibility

Management is responsible for the preparation and presentation of the accompanying consolidated financial statements, including responsibility for significant accounting judgments and estimates in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board. This responsibility includes selecting appropriate accounting principles and methods, and making decisions affecting the measurement of transactions in which objective judgment is required.

The Board of Directors and Audit Committee are composed primarily of Directors who are neither management nor employees of the Company. The Board of Directors is responsible for overseeing management in the performance of its financial reporting responsibilities, and for approving the financial information included in the annual report. The Board fulfils these responsibilities by reviewing the financial information prepared by management and discussing relevant matters with management and the external auditor. The Audit Committee has the responsibility of meeting with management and the external auditors to discuss the internal controls over the financial reporting process, auditing matters and financial reporting issues. The Audit Committee is also responsible for recommending the appointment of the Company's external auditor.

Raymond Chabot Grant Thornton LLP, an Independent Registered Public Accounting Firm, is appointed by the shareholders to audit the financial statements and report directly to them; their report follows. The external auditor has full and free access to, and meets periodically and separately with, both the Audit Committee and management to discuss their audit findings.

March 31, 2022

[Signed by P. Peter Pascali]

P. Peter Pascali, Chief Executive Officer

[Signed by Andre Mainella]

Andre Mainella, Chief Financial Officer

Report of Independent Registered Public Accounting Firm

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To the Shareholders and Board of Directors of
PyroGenesis Canada Inc.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of financial position of PyroGenesis Canada Inc. (the Company) as of December 31, 2021, the related consolidated statements of comprehensive income (loss), changes in shareholders' equity, and cash flows for the year ended December 31, 2021, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2021, and its consolidated operations and its consolidated cash flows for the year ended December 31, 2021, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

The consolidated financial statements of the Company as of December 31, 2020, were audited by other auditors whose report dated March 31, 2021, expressed an unqualified opinion on those statements.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audit, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

We have served as the Company's auditor since 2021.

Raymond Chabot Grant Thornton LLP

Montréal, Canada
March 31, 2022

PyroGenesis Canada Inc.
Consolidated Statements of Financial Position

December 31, 2021 and 2020

	December 31, 2021	December 31, 2020
	\$	\$
Assets		
<i>Current assets</i>		
Cash and cash equivalents [note 7]	12,202,513	18,104,899
Accounts receivable [note 8]	17,639,616	3,329,653
Costs and profits in excess of billings on uncompleted contracts [note 9]	4,922,710	1,073,633
Inventory [note 24]	887,590	–
Investment tax credits receivable [note 10]	256,513	567,059
Income taxes receivable	117,029	–
Current portion of deposits [note 13]	1,328,452	1,421,246
Current portion of royalties receivable [note 12]	311,111	–
Contract assets	375,789	694,301
Prepaid expenses	717,661	145,996
Total current assets	38,758,984	25,336,787
<i>Non-current assets</i>		
Deposits [note 13]	248,756	301,341
Strategic investments [note 11]	14,901,659	39,991,750
Property and equipment [note 14]	3,712,937	2,529,570
Right-of-use assets [note 15]	5,765,993	3,701,000
Royalties receivable [note 12]	947,543	1,060,000
Investment tax credits receivable [note 10]	–	705,316
Intangible assets [note 16]	2,774,198	905,614
Goodwill [note 17]	2,660,607	–
Total assets	69,770,677	74,531,378
Liabilities		
<i>Current liabilities</i>		
Accounts payable and accrued liabilities [note 18]	10,069,177	4,708,051
Billings in excess of costs and profits on uncompleted contracts [note 19]	9,400,231	6,592,972
Current portion of term loans [note 20]	83,004	12,208
Current portion of lease liabilities [note 15]	2,934,236	225,977
Balance due on business combination [note 5]	2,242,503	–
Income taxes payable	23,048	–
Total current liabilities	24,752,199	11,539,208
<i>Non-current liabilities</i>		
Lease liabilities [note 15]	2,389,729	2,762,565
Term loans [note 20]	107,901	100,499
Balance due on business combination [note 5]	1,709,700	–
Deferred income taxes [note 31]	42,394	706,000
Total liabilities	29,001,923	15,108,272
Shareholders' equity [note 22]		
Common shares and warrants	82,104,086	67,950,069
Contributed surplus	19,879,055	10,480,310
Accumulated other comprehensive income	3,444	–
Deficit	(61,217,831)	(19,007,273)
Total shareholders' equity	40,768,754	59,423,106
Total liabilities and shareholders' equity	69,770,677	74,531,378

Contingent liabilities, subsequent events [notes 29 and 33].

The accompanying notes form an integral part of the consolidated financial statements.

Approved on behalf of the Board:

[Signed by P. Peter Pascali] P. Peter Pascali

[Signed by Andrew Abdalla] Andrew Abdalla

PyroGenesis Canada Inc.
Consolidated Statements of Comprehensive Income (Loss)

For the years ended December 31, 2021 and 2020

	2021	2020
	\$	\$
Revenues [note 6]	31,068,350	17,775,029
Cost of sales and services [note 24]	18,636,539	7,472,361
Gross profit	12,431,811	10,302,668
Expenses		
Selling, general and administrative [note 24]	27,237,135	12,334,553
Research and development, net [note 10]	2,535,987	(731,077)
	29,773,122	11,603,476
Net loss from operations	(17,341,311)	(1,300,808)
Changes in fair value of strategic investments [note 11]	(21,426,218)	44,626,698
Finance costs, net [note 25]	(404,370)	(524,074)
Net earnings (loss) before income taxes	(39,171,899)	42,801,816
Income taxes [note 31]	(739,960)	1,033,412
Net earnings (loss)	(38,431,939)	41,768,404
Other comprehensive income (loss)		
Items that will be reclassified subsequently to profit of loss		
Foreign currency translation gain on investments in foreign operations	3,444	–
Comprehensive income (loss)	(38,428,495)	41,768,404
Earnings (loss) per share [note 26]		
Basic	(0.23)	0.28
Diluted	(0.23)	0.27

The accompanying notes form an integral part of the consolidated financial statements.

PyroGenesis Canada Inc.

Consolidated Statements of Changes in Shareholders' Equity

For the years ended December 31, 2021 and 2020

	Number of common shares	Common shares and warrants \$	Contributed Surplus \$	Equity portion of convertible debentures \$	Accumulated other comprehensive income \$	Deficit \$	Total \$
Balance - December 31, 2020	159,145,993	67,950,069	10,480,310	–	–	(19,007,273)	59,423,106
Shares issued upon exercise of stock options [note 22]	3,482,000	1,473,818	(364,000)	–	–	–	1,109,818
Shares issued upon exercise of share purchase warrants and compensation options [note 22]	8,337,897	13,085,197	–	–	–	–	13,085,197
Share redemptions for cancellation [note 22]	(840,094)	(404,998)	–	–	–	(3,778,619)	(4,183,617)
Share-based payments	–	–	9,762,745	–	–	–	9,762,745
Other comprehensive income for the year	–	–	–	–	3,444	–	3,444
Net loss	–	–	–	–	–	(38,431,939)	(38,431,939)
Balance – December 31, 2021	170,125,796	82,104,086	19,879,055	–	3,444	(61,217,831)	40,768,754
Balance - December 31, 2019	141,303,451	47,073,243	6,679,730	401,760	–	(60,237,656)	(6,082,923)
Shares issued upon public issuance [note 22]	3,354,550	12,076,380	–	–	–	–	12,076,380
Share issuance cost	–	(1,640,052)	–	–	–	–	(1,640,052)
Shares issued upon exercise of stock options [note 22]	2,118,000	1,244,207	(484,807)	–	–	–	759,400
Shares issued upon exercise of share purchase warrants [note 22]	7,060,617	5,623,323	–	–	–	–	5,623,323
Issuance of convertible loan – equity component [note 22]	–	–	–	98,422	–	–	98,422
Conversion of loan into shares [note 21]	3,225,000	925,982	–	(98,422)	–	–	827,560
Conversion of debentures into shares [note 21]	3,369,375	3,073,356	–	(360,981)	–	–	2,712,375
Share redemptions for cancellation [note 22]	(1,285,000)	(426,370)	–	–	–	(538,021)	(964,391)
Equity component of convertible debentures [note 22]	–	–	40,779	(40,779)	–	–	–
Share-based payments	–	–	4,244,608	–	–	–	4,244,608
Net earnings and comprehensive income	–	–	–	–	–	41,768,404	41,768,404
Balance – December 31, 2020	159,145,993	67,950,069	10,480,310	–	–	(19,007,273)	59,423,106

The accompanying notes form an integral part of the consolidated financial statements.

PyroGenesis Canada Inc.
Consolidated Statements of Cash Flows

For the years ended December 31, 2021 and 2020

	2021	2020
	\$	\$
Cash flows provided by (used in)		
Operating activities		
Net earnings (loss)	(38,431,939)	41,768,404
Adjustments for:		
Share-based payments	9,762,745	4,244,608
Depreciation of property and equipment	356,103	63,118
Depreciation of right-of-use assets	570,411	408,335
Amortization and write-off of intangible assets	465,913	27,190
Amortization of contract assets	513,572	161,291
Finance costs	404,370	524,074
Change in fair value of investments	21,426,218	(44,626,698)
Loss on disposal of property and equipment	-	2,795
Income taxes	(584,246)	706,000
Unrealized foreign exchange	(10,623)	30,704
	(5,527,476)	3,309,821
Net change in balances related to operations [note 23]	(12,585,956)	(4,124,808)
	(18,113,432)	(814,987)
Investing activities		
Additions to property and equipment	(1,502,231)	(702,111)
Additions to intangible assets	(246,630)	(113,564)
Purchase of strategic investments	(10,588,857)	(4,158,240)
Disposal of strategic investments	14,252,730	9,905,447
Business combination, net of cash acquired	807,945	-
	2,722,957	4,931,532
Financing activities		
Interest paid	(253,791)	(395,013)
Repayment of term loans	(20,507)	(117,154)
Repayment of scientific research and experimental development loans	-	(440,233)
Repayment of lease liabilities	(263,078)	(1,363,050)
Repayment of promissory notes	-	(295,000)
Repayment of convertible debentures	-	(358,500)
Proceeds from issuance of convertible loans	-	903,000
Proceeds from issuance of other term loans	-	195,919
Proceeds from issuance of shares upon exercise of warrants	13,085,197	5,623,322
Proceeds from issuance of shares upon exercise of stock options	1,109,818	759,400
Proceeds from issuance of shares [note 22]	-	12,076,380
Share issue costs	-	(1,640,052)
Shares repurchased for cancellation	(4,183,617)	(964,391)
	9,474,022	13,984,628
Effect of exchange rate changes on cash denominated in foreign currencies	14,067	(30,705)
Net increase (decrease) in cash and cash equivalents	(5,902,386)	18,070,468
Cash and cash equivalents - beginning of year	18,104,899	34,431
Cash and cash equivalents - end of year	12,202,513	18,104,899

PyroGenesis Canada Inc.
Consolidated Statements of Cash Flows

For the years ended December 31, 2021 and 2020

	2021	2020
	\$	\$
Supplemental cash flow disclosure		
Non-cash transactions:		
Purchase of intangible assets included in accounts payable	81,693	113,826
Purchase of property and equipment included in accounts payable	22,557	27,870
Addition to contract assets included in accounts payable	195,060	–
Settlement of accounts receivable on business acquisition	1,744,400	–
Accretion of balance purchase price payable	110,203	–
Accretion interest on royalties receivable	132,809	–
Accretion on term loan	12,185	–
Issuance of common shares upon exercise of convertible debentures	–	2,695,500
Issuance of common shares upon conversion of loan	–	827,560
Initial recognition of contract assets and commissions payables	–	855,592
Proceeds from disposal of strategic investments included in other receivables	–	892,609
HPQ shares received in lieu of payment of accounts receivable	–	395,514
Fair value of HPQ warrants exercised	9,181,250	337,500
Initial recognition or modification of lease liabilities and right-of-use assets [note 15]:		
Right-of-use assets	2,157,796	366,566
Prepaid rent expense	(36,903)	–
Lease liabilities	2,120,893	366,566

The accompanying notes form an integral part of the consolidated financial statements

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

1. Nature of operations

PyroGenesis Canada Inc. and its subsidiaries (collectively, the "Company"), incorporated under the laws of the Canada Business Corporations Act, was formed on July 11, 2011. The Company owns patents of advanced waste treatment systems technology and designs, develops, manufactures and commercialises advanced plasma processes and sustainable solutions to reduce greenhouse gases. The Company is domiciled at 1744 William Street, Suite 200, Montreal, Quebec. The Company is publicly traded on the TSX Exchange under the Symbol "PYR" on NASDAQ in the USA under the symbol "PYR" and on the Frankfurt Stock Exchange (FSX) under the symbol "8PY".

2. Basis of preparation

(a) Statement of compliance

These financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"). These financial statements were approved and authorized for issuance by the Board of Directors on March 31, 2022.

(b) Functional and presentation currency

These consolidated financial statements are presented in Canadian dollars, which is the Company's functional currency.

(c) Basis of measurement

These financial statements have been prepared on the historical cost basis except for:

- (i) strategic investments which are accounted for at fair value,
- (ii) stock-based payment arrangements, which are measured at fair value on the grant date pursuant to IFRS 2, Share-based Payment; and
- (iii) lease liabilities, which are initially measured at the present value of minimum lease payments

(d) Basis of consolidation

For financial reporting purposes, subsidiaries are defined as entities controlled by the Company. The Company controls an entity when it has power over the investee; it is exposed to, or has rights to, variable returns from its involvement with the entity; and it has the ability to affect those returns through its power over the entity.

In instances where the Company does not hold a majority of the voting rights, further analysis is performed to determine whether or not the Company has control of the entity. The Company is deemed to have control when, according to the terms of the shareholder's and/or other agreements, it makes most of the decisions affecting relevant activities.

These consolidated financial statements include the accounts of the Company and its subsidiaries, Drosrite International LLC and Pyro Green-Gas Inc. and its subsidiaries. Drosrite International LLC is owned by a member of the Company's key management personnel and close member of the Chief Executive Officer ("CEO") and controlling shareholder's family and is deemed to be controlled by the Company. Pyro Green-Gas (formerly AirScience Technologies Inc. until the renaming on September 14, 2021) was acquired by the Company on August 11, 2021 (see note 5). All transactions and balances between the Company and its subsidiaries have been eliminated upon consolidation.

The accounting policies set out below have been applied consistently in the preparation of the financial statements of all years presented. Finance costs and changes in fair value of strategic investments are excluded from the loss from operations in the consolidated statement of comprehensive income (loss).

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

3. Significant accounting policies

(a) Business combinations

Business combinations are accounted for using the acquisition method. Goodwill is measured as the excess of the fair value of the consideration transferred over the net recognized amount of the identifiable assets acquired and liabilities assumed, all measured at the acquisition date.

The consideration transferred is measured as the net of the fair values of assets transferred, liabilities assumed, and equity instruments issued by the Company at the acquisition date, including any asset or liability resulting from a contingent consideration arrangement, in exchange of the acquiree.

The obligation to pay the contingent consideration is classified as a liability, and measured as a financial instrument or as a provision. Changes in fair values that qualify as a measurement period adjustments of preliminary purchase price allocations are adjusted in the current period and such changes are applied on a retroactive basis.

Acquisition costs that the Company incurs in connection with a business combination are recognized in profit or loss as incurred, except for costs associated with the issuance of debt or equity securities.

(b) Revenue recognition

Revenue from contracts is recognized for each performance obligation either over a period of time or at a point in time, depending on which method reflects the transfer of control of the goods and services underlying the particular performance obligation.

i) Long-term contracts

Long-term contracts involve made-to-order customized equipment and machines and are generally priced on a fixed fee basis. Under these contracts, the equipment or machines are made to a customer's specifications and if a contract is terminated by the customer, the Company is entitled to the greater of the amounts invoiced at the termination date and the reimbursement of the costs incurred to date of termination, including a reasonable margin. Agreements that contain multiple deliverables require the Company to determine whether they contain separately identifiable performance obligations and to allocate the consideration received to each performance obligation.

Revenue relating to long-term contracts is recognized over time based on the measure of progress determined by the Company's efforts or inputs towards satisfying the performance obligation relative to the total expected inputs. The degree of completion is assessed based on the proportion of total costs and/or hours incurred to date, compared to total costs and/or hours anticipated to provide the service under the entire contract, excluding the effects of inputs that do not depict performance, e.g. uninstalled materials. For long-term contracts with uninstalled materials, the Company adjusts the transaction price and recognizes revenue on uninstalled materials to the extent of those costs incurred, i.e. at a zero percent profit margin, when certain conditions are met.

Estimates are required to determine anticipated costs and/or hours on long-term contracts. A provision is made for the entire amount of expected loss, if any, in the period in which they are first determinable.

Contract modifications are changes in scope and/or price that are approved by the parties to the contract. Approval may be written, oral or implied by customary business practices, and are legally enforceable. The Company accounts for modifications as a separate contract if the modifications add distinct goods or services that are priced commensurate with stand-alone selling prices or if the remaining goods or services are distinct from those already transferred, otherwise modifications are accounted for as part of the original contract.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

3. Significant accounting policies (continued)

(b) Revenue recognition (continued)

i) Long-term contracts (continued)

Costs and profits in excess of billings on uncompleted contracts and trade receivables are both rights to consideration in exchange for goods or services that the Company has transferred to a customer, however the classification depends on whether such right is only conditional on the passage of time (trade receivables) or if it is also conditional on something else (costs and profits in excess of billings on uncompleted contracts), such as the satisfaction of further performance obligations under the contract. Billings in excess of costs and profits on uncompleted contracts is the cumulative amount received and contractually receivable by the Company that exceeds the right to consideration resulting from the Company's performance under a given contract.

The costs to obtain long-term contracts such as sale commissions are recognized as Contract assets and recognized as selling expenses over time based on degree of completion of the related contract.

ii) Sales of goods

Revenue related to sales of goods, which may include powders and spare parts are measured based on the consideration specified in contracts with customers. The Company recognizes revenue at a point in time when it transfers control of the goods to the buyer. This is generally at the time the customer obtains legal title to the product and when it is physically transferred to the custody transfer point agreed with the customer.

iii) Sale of intellectual property

Sale of intellectual property is recognized at the date the recipient obtains control of the asset. Variable consideration related to the sale of intellectual property is recognized to the extent that it is highly probable that a reversal will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

(c) Foreign currency translation

i) Foreign currency transactions

Revenue and expense transactions in foreign currencies are translated into Canadian dollars using the average exchange rates prevailing at the time of the transaction. Foreign currency balances are translated into Canadian dollars at year end exchange rates for monetary items and at historical rates for non-monetary items. Translation gains or losses are included in the determination of net earnings.

ii) Foreign operations

The assets and liabilities of foreign operations are translated into Canadian dollars using exchange rates prevailing at the end of the reporting period. Revenue and expense items are translated at the average exchange rates for the period. Exchange differences arising from the translation process of foreign operations are recognized as foreign currency translation adjustments in other comprehensive income and accumulated in equity.

(d) Cash and cash equivalents

Cash and cash equivalents are financial instruments readily convertible to a known amount of cash and not subject to a significant risk of changes in value. Cash equivalents include instruments with a maturity of three months or less from the date of acquisition and instruments with an original term longer than three months if there is no significant penalty for withdrawal within a three-month period from the date of acquisition.

(e) Inventory

Inventory is composed of spare parts for resale. Inventory is valued at the lower of cost and net realizable value. The cost of inventory is based on the first-in, first-out principle and comprises all costs of purchases. Net realizable value is estimated selling price in the ordinary course of business, less estimated costs of completion and selling costs.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

3. Significant accounting policies (continued)

(f) Deferred income taxes

i) Current tax

Current tax assets and liabilities for the current and prior years are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted by the date of the statements of financial position.

ii) Deferred tax

Deferred tax is provided using the liability method, providing for temporary differences between the tax bases of assets and liabilities and their carrying amounts in the financial statements. The temporary difference is not provided for if it arises from the initial recognition of goodwill or the initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss. The amount of deferred tax provided is based on the expected manner of realization or settlement of the carrying amount of assets and liabilities, using tax rates enacted or substantively enacted at the financial position reporting date and whose implementation is expected over the period in which the deferred tax is realized or recovered. A deferred tax asset is recognized only to the extent that it is probable that future taxable profits will be available against which the asset can be used.

Deferred tax assets and liabilities are presented as non-current. Assets and liabilities are offset where the entity has a legally enforceable right to offset current tax assets and liabilities or deferred tax assets and liabilities, and the respective assets and liabilities relate to income taxes levied by the same taxation authority on the same taxable entity or different taxable entities which intend to settle the liabilities and assets on a net basis.

(g) Earnings (loss) per share

The Company presents basic earnings (loss) per share data for its common shares. Basic loss per share is computed by dividing net earnings (loss) by the weighted average number of common shares outstanding during the year. Diluted loss per share is computed similarly to basic earnings per share, except that the weighted average number of shares outstanding is increased to include shares from the assumed exercise of stock options and share purchase warrants, if dilutive. The number of additional shares is calculated by assuming that outstanding share options and warrants were exercised and that the proceeds from such exercises were used to acquire common shares at the average market price during the year. Potential shares from all outstanding stock options and share purchase warrants are excluded from the calculation of diluted loss per share as their inclusion is considered anti-dilutive in years when a loss is incurred.

(h) Property and equipment

Property and equipment are measured at cost less accumulated depreciation and accumulated impairment losses if applicable. Cost includes expenditures that are directly attributable to the acquisition of the asset and bringing the asset into operation. Borrowing costs capitalized to asset under development represents the interest expense calculated under the effective interest method and does not include any fair value adjustments of investments designated at fair value through profit and loss. Government assistance and investment tax credits related to the purchase or development of property and equipment are recorded in reduction of the cost. When major parts of an item of property and equipment have different useful lives, they are accounted for separately. Property and equipment are depreciated from the acquisition date over their respective useful life. Depreciation of an asset under construction begins when it is available for use, i.e. when it is in the location and condition necessary for it to be capable of operating in the manner intended by the Company.

Depreciation is calculated using the following methods and rates:

Computer equipment	Straight line over 3 years
Machinery and equipment	Straight line over 10 years
Automobiles	Straight line over 7 years
Leasehold improvements	Lesser of the lease term or the useful life (20 years)

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

3. Significant accounting policies (continued)

Impairment – non-financial assets

The carrying amounts of the Company's non-financial assets are assessed at each reporting date to determine whether there is an indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated.

Impairment losses recognized in prior periods are assessed at each reporting date as to whether there are any indications that the previously recognized losses may no longer exist or may be decreased. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years.

Depreciation methods, useful lives and residual values are reviewed at each financial year end and adjusted prospectively if appropriate.

(i) Leases

Under IFRS 16, at inception, the Company assesses whether a contract is, or contains, a lease based on whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

The Company recognizes a right-of-use asset and a lease liability at the commencement date of the lease, i.e. the date the underlying asset is available for use.

Right-of-use assets

Right-of-use assets are measured at cost, less any accumulated depreciation and accumulated impairment losses, and adjusted for any remeasurement of lease liabilities. Cost of right-of-use assets is comprised of:

- the initial measurement amount of the lease liabilities recognized.
- any lease payments made at or before the commencement date, less any lease incentives received; and
- any initial direct costs incurred; and
- an estimate of costs to dismantle and remove the underlying asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease contract.

Right-of-use assets are depreciated over the shorter period of the lease term and the useful life of the underlying asset. If a lease transfers ownership of the underlying asset or the cost of the right-of-use asset reflects that the Company expects to exercise a purchase option, the related right-of-use asset is depreciated over the useful life of the underlying asset based on periods detailed above. The depreciation starts at the commencement date of the lease. Right-of-use assets are assessed for impairment whenever there is an indication that the right-of-use assets may be impaired.

Lease liabilities

Lease liabilities are initially measured at the present value of the lease payments that are not paid at the commencement date over the lease term. The present value of the lease payments is determined using the lessee's incremental borrowing rate at the commencement date if the interest rate implicit in the lease is not readily determinable. The incremental borrowing rate is a function of the lessee's incremental borrowing rate, the nature of the underlying asset, the location of the asset, the length of the lease and the currency of the lease contract. Generally, the Company uses the lessee's incremental borrowing rate for the present value. At the commencement date, lease payments generally include fixed payments, less any lease incentives receivable, variable lease payments that depend on an index (e.g. based on inflation index) or a specified rate, and payments of penalties for terminating the lease, if the lease term reflects the lessee exercising the option to terminate the lease. Lease payments also include amounts expected to be paid under residual value guarantees and the exercise price of a purchase option if the Company is reasonably certain to exercise that option.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

3. Significant accounting policies (continued)

(i) Leases (continued)

Lease liabilities (continued)

Variable lease payments that do not depend on an index or a specified rate are not included in the measurement of lease liabilities but instead are recognized as expenses in the period in which the event or condition that triggers the payment occurs.

After the commencement date, the carrying amount of lease liabilities is increased to reflect the accretion of interest and reduced to reflect lease payments made. In addition, the carrying amount of lease liabilities is remeasured when there is a change in future lease payments arising from a change in an index or specified rate, if there is a modification to the lease terms and conditions, a change in the estimate of the amount expected to be payable under residual value guarantee, or if the Company changes its assessment of whether it will exercise a termination, extension or purchase option. The remeasurement amount of the lease liabilities is recognized as an adjustment to the right-of-use asset, or in the profit and loss statement when the carrying amount of the right-of-use asset is reduced to zero.

Classification and presentation of lease-related expenses

Depreciation charge for right-of-use assets, expenses related to variable lease payments not included in the measurement of lease liabilities and loss (gain) related to lease modifications are allocated in the Company's profit and loss statement based on their function within the Company, while interest expense on lease liabilities is presented within finance costs.

Cash flow classification

Lease payments related to the principal portion of the lease liabilities are classified as cash flows from financing activities while lease payments related to the interest portion of the lease liabilities are classified as interest paid within cash flows from financing activities. Lease incentives received are classified as cash flows from investing activities. Variable lease payments not included in the measurement of lease liabilities are classified as cash flows from operating activities.

(j) Government assistance and investment tax credits

Investment tax credits are comprised of scientific research and experimental development tax credits. Government assistance and investment tax credits are recognized when there is reasonable assurance of their recovery and recorded as a reduction of the related expense or cost of the asset acquired, as applicable. Investment tax credits are subject to the customary approvals by the pertinent tax authorities. Adjustments required, if any, are reflected in the year when such assessments are received.

(k) Intangible assets and Goodwill

Intangible assets acquired separately are measured at cost on initial recognition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and any accumulated impairment losses.

Identifiable intangible assets acquired in a business combination are recognized separately from goodwill if they meet the definition of an intangible asset and if their fair value can be measured reliably. The cost of these intangible assets equals their acquisition-date fair value.

Subsequent to initial recognition, identifiable intangible assets acquired in a business combination are recorded at cost less accumulated amortization and impairment losses, if they are amortizable, otherwise only at cost net of accumulated impairment losses. The useful lives of intangible assets are assessed as either finite or indefinite.

Intangible assets with finite lives are amortized over the useful life of the asset and assessed for impairment whenever there is an indication of impairment. Amortization expense on the intangible assets with finite lives is recognized in the statements of comprehensive loss.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

3. Significant accounting policies (continued)

(k) Intangible assets and Goodwill (continued)

Research costs are charged to comprehensive loss in the year they are incurred, net of related investment tax credits. Development costs are charged to comprehensive loss in the year they are incurred net of related investment tax credits unless they meet specific criteria related to technical, market and financial feasibility in order to be recognized as intangible assets which include:

- the technical feasibility of completing the intangible asset so that it will be available for use or sale;
- the Company has the intention to complete and the ability to use or sell the asset;
- the asset will generate future economic benefits;
- the Company has the resources to complete the asset; and
- ability to measure reliably the expenditure during development.

Costs to establish patents for internally developed technology are considered development costs and are charged to comprehensive loss in the year they are incurred unless they meet specific criteria related to technical, market and financial feasibility. Patent costs include legal and other advisor fees to obtain patents, and patent application fees.

Amortization of the development costs is calculated on a straight-line basis over the remaining useful life of the related patent and begins when development is complete. During the period of development, the asset is tested annually for impairment. Residual values and useful lives are reviewed at each reporting date.

Amortization is calculated on a straight-line basis:

	Useful life
Production backlog	30 months
Patents and development costs	1 to 21 years

Goodwill represents the future economic benefits arising from a business combination that are not individually identified and separately recognized. Goodwill is carried at cost less accumulated impairment losses. Goodwill is not amortized, but is tested for impairment annually or if there is an indication of impairment. Impairment losses recognized for goodwill cannot be reversed.

Impairment testing of goodwill, other intangible assets, property and equipment and right-of-use assets

For impairment assessment purposes, assets are grouped at the lowest levels for which there are largely independent cash inflows (cash-generating units). As a result, some assets are tested individually for impairment and some are tested at cash-generating unit level. Goodwill is allocated to those cash-generating units that are expected to benefit from synergies of a related business combination and represents the lowest level within the Company at which management monitors goodwill.

Cash-generating units to which goodwill has been allocated are tested for impairment at least annually. All other individual assets or cash-generating units are tested for impairment whenever events or changes in circumstances indicate the carrying amount may not be recoverable.

The recoverable amount of an asset or cash-generating unit (CGU) is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For the purposes of testing non-financial assets for impairment, management has identified one CGU.

An impairment loss is recognized if the carrying amount of an asset or its CGU exceeds its recoverable amount. Impairment losses are recognized in the statement of comprehensive loss. Impairment losses recognized in respect of the CGU are allocated first to reduce the carrying amount of goodwill allocated to the units, and then to reduce the carrying amounts on a pro-rata basis of the other assets in the unit.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

3. Significant accounting policies (continued)

(l) Employee benefits

Share-based payments

The Company applies a fair value-based method of accounting to all share-based payments. Employee and director stock options are measured at their fair value of each tranche on the grant date and recognized in its respective vesting period. Non-employee stock options are measured when the services are rendered by the consultant at the fair value of the services received, if the fair value can be measured reliably. In the case the fair value of the services cannot be measured reliably, the services are measured indirectly using the fair value of the equity instruments granted. If there are unidentifiable services, then they are measured at grant date. The cost of stock options is presented as share-based payment expense. On the exercise of stock options, share capital is credited for the consideration received and for the fair value amounts previously credited to contributed surplus. The Company uses the Black-Scholes option-pricing model to estimate the fair value of share-based payments.

Deferred profit-sharing plan

The Company established a yearly Deferred Profit-Sharing Plan ("DPSP") for all eligible employees who have materially and significantly contributed to the prosperity and profits of the Company. The significance of any contribution of any employee to the prosperity and profits of the Company for purposes of eligibility in the DPSP is determined by the Board of Directors of the Company upon such relevant information as the Board, in its sole discretion, may find relevant. All related persons to the Company are excluded from participating in the DPSP.

For all eligible employees, the Company is required to contribute to the DPSP out of the profits of the Company. The amount of the Company's contribution will be such amount which, in the opinion of its Board of Directors, is warranted by the profits and overall financial position of the Company. During the year, the Company contributed \$Nil to the DPSP (\$Nil in 2020). Obligations for contributions to the DPSP are recognized as an employee benefit expense in the statement of comprehensive loss in the periods during which services are rendered by employees.

Short-term employee benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided.

A liability is recognized for the amount expected to be paid under the short-term incentive plan if the Company has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

(m) Equity Instruments

Issuance of equity instruments

Incremental costs directly attributable to the issue of equity-classified shares are recognized as a deduction from the common shares and warrants, net of any tax effects.

Extinguishing financial liabilities with equity instruments

When equity instruments issued to a creditor to extinguish all or part of a financial liability are recognized initially, the Company measures them at the fair value of the equity instruments issued, unless that fair value cannot be reliably measured. If the fair value of the equity instruments issued cannot be reliably measured, then the equity instruments shall be measured to reflect the fair value of the financial liability extinguished.

Contributed surplus

Contributed surplus includes amounts related to equity-settled share-based payments until such equity instruments are exercised or settled, in which case the amounts are transferred to common shares or reversed upon forfeiture if not vested. It also includes the unexercised conversion option at the maturity of the convertible debentures.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

3. Significant accounting policies (continued)

(n) Financial Instruments

Financial assets are classified at amortized cost, fair value through profit or loss (“FVTPL”) or fair value through other comprehensive income (“FVOCI”) based on the Company's business model for managing the financial assets and the contractual cash flow characteristics of these assets. Assessment and decision on the business model approach used is an accounting judgment.

A financial asset is measured at amortized cost if it is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows and its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. The Company includes in this category cash and cash equivalents, trade accounts receivable, other receivables, royalties receivable and deposits.

A financial asset is measured at fair value through profit or loss (“FVTPL”) if:

- (a) Its contractual terms do not give rise to cash flows on specified dates that are solely payments of principal and interest (SPPI) on the principal amount outstanding; or
- (b) It is not held within a business model whose objective is either to collect contractual cash flows, or to both collect contractual cash flows and sell; or
- (c) At initial recognition, it is irrevocably designated as measured at FVTPL when doing so eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases.

The Company includes in this category strategic investments in equity instruments.

Changes in fair value of financial liabilities attributable to changes in the entity's own credit risk are to be presented in other comprehensive income unless they affect amounts recorded in income. All financial liabilities, other than those measured at fair value through profit or loss, are included in the financial liabilities measured at amortized cost. The Company includes in this category accounts payable and accrued liabilities, term loans, and convertible debentures. The balance due on business combination is measured at FVTPL.

Recognition:

The Company recognizes a financial asset or a financial liability when it becomes a party to the contractual provisions of the instrument.

Purchases or sales of financial assets that require delivery of assets within the time frame generally established by regulation or convention in the market place (regular way trades) are recognized on the trade date, i.e. the date that the Company commits to purchase or sell the asset.

Initial measurement

Financial assets and liabilities (other than financial assets at FVTPL) are measured initially at their fair value plus any directly attributable incremental costs of acquisition or issue.

Financial assets and financial liabilities at FVTPL are recorded in the statement of financial position at fair value. All transaction costs for such instruments are recognized directly in profit or loss.

Subsequent measurement

Financial assets (other than financial assets at FVTPL) are measured at amortized cost using the effective interest method less any allowance for impairment. Gains and losses are recognized in profit or loss when the debt instruments are derecognized or impaired, as well as through the amortization process.

Financial liabilities are measured at amortized cost using the effective interest method except for derivatives and financial liabilities designated at FVTPL. Gains and losses are recognized in profit or loss when the liabilities are derecognized, as well as through the amortization process.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

3. Significant accounting policies (continued)

(n) Financial Instruments (continued)

Fair value measurement principles

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Where financial assets and financial liabilities measured at fair value through profit or loss have a quoted price in an active market at the reporting date, the fair value is based on this price. A financial instrument is regarded as quoted in an active market if quoted prices are readily and regularly available from a stock exchange and those prices represent actual and regularly occurring market transactions on an arm's length basis.

Securities traded on stock exchanges are stated at market price based on the closing price on the relevant valuation day.

Derecognition

A financial asset is derecognized where the rights to receive cash flows from the asset have expired, or the Company has transferred its rights to receive cash flows from the asset. The Company derecognizes a financial liability when the obligation under the liability is discharged, cancelled or expired.

Offsetting of financial instruments

Financial assets and financial liabilities are offset, and the net amount reported in the statement of financial position if, and only if, there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, or to realize the assets and settle the liabilities simultaneously.

Impairment of financial instruments

The Company applies the "expected credit loss" ("ECL") model to financial assets measured at amortized cost. The Company's financial assets subject to this impairment model are cash and cash equivalents, trade and other receivables, royalties receivable and deposits.

The trade accounts receivable have no financing component and have maturities of less than 12 months at amortized cost and, as such, the Company applies the simplified approach for expected credit losses (ECLs) to all its trade accounts receivable. Therefore, the Company recognizes a loss allowance based on lifetime ECLs at each reporting date.

The Company's approach to ECLs reflects a probability-weighted outcome, the time value of money and reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

The Company uses the provision matrix as a practical expedient to measure ECLs on trade receivables, based on days past due for groupings of receivables with similar loss patterns. The provision matrix is based on historical observed loss rates over the expected life of the receivables and is adjusted for forward-looking estimates. Impairment losses are recognized in profit or loss and reflected in an allowance account presented in reduction of receivables.

Write-off

The gross carrying amount of a financial asset is written off when the Company has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

3. Significant accounting policies (continued)

(n) Financial Instruments (continued)

Compound Financial Instruments

Compound financial instruments issued by the Company comprise convertible debentures that can be converted into common shares at the option of the holder, and the number of shares to be issued does not vary with changes in their fair value.

The component parts of the compound instrument issued by the Company are initially classified separately as financial liabilities and equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument. The conversion option that will be settled by the exchange of a fixed amount of cash or another financial asset for a fixed number of the Company's own equity instruments is an equity instrument.

At the date the convertible debentures are issued, the liability component is initially recognized at the fair value of similar debt instruments which do not have an equity conversion option. The initial amount of the liability component is determined by discounting the face value of the convertible debentures using a rate of interest prevailing for similar non-convertible instruments at the date of issue for instruments of similar terms and risks. The conversion option classified as the equity component is determined by deducting the amount of the liability component from the gross proceeds. The equity component is recognized net of income tax effects within the other equity account.

Subsequently, the liability component is accounted for at amortized cost and is accreted using the effective interest method, up to the face value of the convertible debentures during the period they are outstanding. Interest expense on the convertible debentures is composed of the interest calculated on the face value of the convertible debentures and a non-cash notional interest representing the accretion of the carrying value of the convertible debentures. The equity component is not remeasured.

The conversion option classified as equity remains in the other equity account until the conversion option is exercised, in which case, the balance recognized in other equity is transferred to share capital. When the conversion option remains unexercised at the maturity date of the convertible debentures, the balance recognized in other equity will be transferred to contributed surplus. No gain or loss is recognized in the consolidated income statement upon conversion or expiration of the conversion option.

Transaction costs related to the issuance of convertible debentures are allocated to the liability and equity components in proportion to the allocation of the gross proceeds. Transaction costs relating to the equity component are recognized directly in other equity. Transaction costs relating to the liability component are included in the carrying amount of the liability component and are amortized over the term of the convertible debentures using the effective interest method.

Effective Interest Method

The effective interest method is a method of calculating the amortized cost of a financial asset/financial liability and of allocating interest income/expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts/payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial instrument, or (when appropriate) a shorter period, to the net carrying amount on initial recognition.

(o) Future Changes and Amendments to Accounting Standards and Interpretations

i) IAS 1 *Presentation of Financial Statements - Accounting Policies*

In 2021, the IASB amended IAS 1, *Presentation of Financial Statements*, to require entities to disclose their material accounting policy information rather than their significant accounting policies. Additional amendments to IAS 1 are made to explain how an entity can identify a material accounting policy. The amendments are effective for annual reporting periods beginning on or after January 1, 2023, with earlier application permitted.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

3. Significant accounting policies (continued)

(o) Future Changes and Amendments to Accounting Standards and Interpretations (Continued)

ii) IAS 1 *Presentation of Financial Statements - Classification of Liabilities*

The IASB released *Classification of Liabilities as Current or Non-current (Amendments to IAS 1)*, which clarifies the guidance in IAS 1 Presentation of Financial Statements on whether a liability should be classified as either current or non-current relating to the right to defer settlement of the liability for at least twelve months after the reporting date. The amendment is effective for annual reporting periods beginning on or after January 1, 2023, with earlier application permitted.

iii) IAS 12 *Income Taxes*

The IASB released *Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction (Amendments to IAS 12)*. The amendment relates to the recognition of deferred tax when an entity accounts for transactions, such as leases or decommissioning obligations, by recognizing both an asset and a liability. The objective of this amendment is to narrow the initial recognition exemption in paragraphs 15 and 24 of IAS 12, so that it would not apply to transactions that give rise to both taxable and deductible temporary differences, to the extent the amounts recognized for the temporary differences are the same. The amendment is effective for annual reporting periods beginning on or after January 1, 2023, with earlier application permitted.

iv) IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*

The IASB released *Onerous Contracts - Cost of Fulfilling a Contract (Amendments to IAS 37)*. The amendments specify which costs an entity includes in determining the cost of fulfilling a contract for the purpose of assessing whether the contract is onerous. Costs to be included comprise the costs that relate directly to the contract, which include both incremental costs of fulfilling the contract and an allocation of other costs that relate directly to fulfilling the contract. The amendment is effective for annual reporting periods beginning on or after January 1, 2023, with earlier application permitted.

The Company is currently assessing the impact of these future changes and amendments on its consolidated financial statements.

4. Significant accounting judgments, estimates and assumptions

The preparation of financial statements requires management to make judgments, estimates and assumptions based on currently available information that affect the reported amounts of assets, liabilities and contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting period. Estimates and judgments are continuously evaluated and are based on management's experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. However, actual results could differ from those estimated. By their very nature, these estimates are subject to measurement uncertainty and the effect of any changes in estimates on the financial statements of future periods could be material.

In the process of applying the Company's accounting policies, management has made the following judgments, estimates, and assumptions which have the most significant effect on the amounts recognized in the financial statements.

Critical judgments in applying accounting policies

(a) Assessment of whether there is any indication that property and equipment, right-of-use assets and intangible asset may be impaired

At each reporting date, the Company reviews the carrying amounts of its property and equipment, right-of-use assets and intangible assets with a finite useful life to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Management's judgment is required in assessing whether there is any indication that an asset may be impaired.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

4. Significant accounting judgments, estimates and assumptions (continued)

Critical judgments in applying accounting policies (continued)

(b) Intangible assets

The recognition of development costs as intangible assets requires judgments to determine whether the required criteria for recognition are met including management estimates of future economic benefits.

(c) Sale of intellectual property

The recognition of variable consideration related to the sale of intellectual property requires management's judgments to determine whether it is highly probable that a reversal will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

(d) Assessment of investment tax credits

The investment tax credits are estimated by management based on quantitative and qualitative analysis and interpretation of various government programs, related restrictions, limitations, definitions, and eligibility conditions. Uncertainty over the eligibility and final assessment by taxation authorities of investment tax credits requires judgment. Management involves its technical staff and external specialists in determining if the expenditures meet the requirements of the different tax credit claims.

Key sources of estimation uncertainty

(e) Revenue recognition

Revenue recognition for long-term contracts completion requires the use of estimates to determine the recorded amount of revenues, costs in excess of billings and billings in excess of costs and profits on uncompleted contracts.

The determination of anticipated costs for completing a contract is based on estimates that can be affected by a variety of factors, including the cost of materials, labour and sub-contractors, as well as potential claims from customers and subcontractors.

As risks and uncertainties are different for each project, the sources of variations between anticipated costs and actual costs incurred will also vary by project. The determination of estimates is based on the Company's business practices as well as its historical experience. Estimates are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised.

Given this estimation process, it is possible that changes in future conditions could cause a material change in the recognized amount of revenues and costs and profits in excess of billings on uncompleted contracts and accrued expenses.

Agreements that contain multiple deliverables require the use of judgment to determine whether they contain separately identifiable performance obligations and to allocate the consideration received to each performance obligation.

(f) Stock-based payments

The Company uses the fair value method of valuing compensation cost associated with the Company's stock option plan. Estimating fair value requires determining the most appropriate valuation model for a grant of equity instruments, which is dependent on the terms and conditions of the grant. This also requires determining the most appropriate inputs to the valuation model including the expected life of the option and volatility. The assumptions and models are discussed in note 22.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

4. Significant accounting judgments, estimates and assumptions (continued)

Key sources of estimation uncertainty (continued)

(g) Useful lives of property and equipment and intangible assets

The Company estimates the useful lives of property and equipment based on the period over which the assets are expected to be available for use. The estimated useful lives of property and equipment are reviewed periodically and are updated if expectations differ from previous estimates due to physical wear and tear and legal or other limits on the use of the relevant assets. In addition, the estimation of the useful lives of property and equipment are based on management's experience with similar assets. It is possible, however, that future results of operations could be materially affected by changes in the estimates brought about by changes in factors mentioned above. The amounts and timing of recorded expenses for any period would be affected by changes in these factors and circumstances. Useful lives, depreciation rates and residual values are reviewed at least annually.

(h) Impairment of non-financial assets and goodwill

In assessing impairment, management estimates the recoverable amount of each asset or cash generating unit based on expected future cash flows and uses an interest rate to discount them. Estimation uncertainty relates to assumptions about future operating results and the determination of a suitable discount rate (see Note 3 (k)).

(i) Fair value of investments

Where the fair values of investments recorded in the statement of financial position cannot be derived from active markets, they are determined using valuation techniques including the Black-Scholes models. The inputs to these models are taken from observable markets where possible, but where this is not feasible, a degree of judgment is required in establishing the fair values. The judgments include considerations of inputs such as the expected volatility and the initial allocation of the consideration paid between the fair value of the common shares and warrants received. Should any of the inputs to these models or changes in assumptions about these factors occur, this could affect the reported fair value of the investments.

(j) Right-of-use assets and lease liabilities

In determining the carrying amount of the right-of-use asset and corresponding lease liabilities, assumptions include the non-cancellable term of the lease plus periods covered by an option to renew or purchase the leases, estimated useful lives of the related assets, and incremental borrowing rate. Renewal and purchase options are only included in the lease term if management is reasonably certain to renew. Management considers factors such as market conditions, comparable rental rates and similar property values. The Company is also required to estimate the incremental borrowing rate specific to each portfolio of leased assets with similar characteristics if the interest rate in the lease is not readily determined. Management determines the incremental borrowing rate using base rate for similar loans plus a risk premium.

(k) Income taxes

The Company has unused available tax losses, deductible temporary differences and investment tax credits. The Company recognizes deferred income tax assets for these unused tax losses and deductible temporary differences only to the extent that, in management's opinion, it is probable that future taxable profit will be available against which these available tax losses and temporary differences can be utilized. The Company recognizes investment tax credits when it has reasonable assurance that it has complied with the conditions of the program and that the amounts will be realized (i.e. that it will generate future federal income taxes payable against which the tax credits can be applied). The Company's projections of future taxable profit involve the use of significant assumptions and estimates with respect to a variety of factors, including future sales and operating expenses. There can be no assurance that the estimates and assumptions used in our projections of future taxable income will prove to be accurate predictions of the future, and in the event that our assessment of the recoverability of these deferred tax assets and investment tax credits changes in the future, a material increase or reduction in the carrying value of these deferred tax assets and investment tax credits could be required, with a corresponding charge to net earnings.

PyroGenesis Canada Inc.
Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

4. Significant accounting judgments, estimates and assumptions (continued)

(l) Business combinations

Fair value of assets acquired and liabilities assumed in a business combination is estimated based on information available at the date of acquisition and involves considerable judgment in determining the fair values assigned to the identifiable assets acquired and liabilities assumed on acquisition. Among other things, the determination of these fair values involves the use of discounted cash flow analyses and estimated profit margins on contracts in progress. In addition, the determination of the contingent consideration due on the business combination is based on the estimations of the probability and timing of completing the predetermined milestones (see note 5);

(m) COVID-19 pandemic

The COVID-19 pandemic continues to cause significant financial market and social dislocation. The situation is dynamic with various cities and countries around the world responding in different ways to address the outbreak. While the Company has experienced the impact of the outbreak of the Coronavirus (COVID 19) on its operations, it had continued to operate during the current pandemic. During the year ended December 31, 2020, the Company recognized payroll subsidies totaling \$775,967 principally under the Canadian Emergency Wage Subsidy program, which amount required estimation (see note 24). In the event of a prolonged continuation of the pandemic, it is not clear what the potential impact may be on the Company’s business, financial position and financial performance.

5. Business combination

On August 11, 2021, the Company completed the acquisition of Pyro Green-Gas Inc. and its subsidiaries (formerly AirScience Technologies Inc. prior to its renaming on September 14, 2021), a Montreal-based company which offers technologies, equipment, and expertise in the area of biogas upgrading, as well as air pollution controls, for a maximum purchase price consideration of \$4.4 million in cash, subject to customary post-closing adjustments. In addition, the Company settled a pre-existing loan receivable from Pyro Green-Gas Inc. of approximately \$1.7 million. The transaction was executed essentially through a purchase of the entirety of the common class “A” shares of Pyro Green-Gas Inc. This acquisition enables the Company to springboard into the renewable natural gas market and provides an advantage compared to building its own operations. In addition, the Company will now have a presence in Italy and India, and the acquisition will provide potential synergies with the Company’s land-based waste destruction offerings. The purchase price will be paid upon the achievement of various contract and business-related milestones by Pyro Green-Gas Inc. The Company’s assessment is that these milestones will be realized at various moments during the next 30 months. The contingent consideration was estimated using a discount rate of 8%.

The acquisition was accounted for using the purchase method and the final allocation of the purchase price is as follows:

	December 31, 2021
	Final
	\$
Total consideration	
Consideration paid at closing	1
Contingent consideration	3,841,999
Consideration paid at closing and continent consideration	3,842,000
Settlement of pre-existing loan receivable from Pyro Green-Gas	1,744,400
	5,586,400

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

5. Business combination (continued)

	December 31, 2021
	Final
	\$
Net assets acquired	
Current assets ¹	5,186,086
ROU asset	477,608
Property and equipment	42,552
Intangible assets and Goodwill ²	4,780,607
Deferred income tax asset	79,360
Current liabilities	(4,507,907)
Non-current liabilities	(471,906)
	5,586,400

¹ Includes \$807,946 of cash and trade receivables with a net fair value of \$3.3 million, including an allowance for doubtful accounts of \$0.5 million.

² The goodwill of \$2.7 million recorded on the transaction is mainly attributable to the expected growth in biogas upgrading market and the expertise of the workforce, and it is not expected to be deductible for tax purposes.

During the period ended December 31, 2021, the Company recognized revenue of \$6.8 million and net earnings of \$0.8 million related to the operations generated by Pyro Green-Gas Inc. since the acquisition date.

In connection with this acquisition, the Company incurred acquisition-related costs of \$0.1 million, recognized within Selling, General and Administrative expenses in the consolidated statement of comprehensive income (loss).

The maximum purchase price consideration of \$4,355,600 was discounted to \$3,842,000, at August 11, 2021 and an accretion expense of \$110,203 was recognized in Net finance costs in the Consolidated Statement of Comprehensive Income for the year ended December 31, 2021.

6. Revenues

Revenues by product line:

The company's revenues are generated primarily from the following:

	2021	2020
	\$	\$
Revenue from contracts with customers by product line:		
PUREVAP™	6,138,111	4,163,059
DROSRITE™	7,940,771	9,976,696
Development and support related to systems supplied to the U.S. Navy	7,522,809	1,425,883
Torch related sales	2,084,511	1,452,455
Biogas upgrading and pollution controls	6,800,090	–
Other sales and services	582,058	756,936
	31,068,350	17,775,029

The following is a summary of the Company's revenues by revenue recognition method:

	2021	2020
	\$	\$
Revenue from contracts with customers:		
Sales of goods under long-term contracts recognized over time	25,918,594	12,432,666
Sales of goods at a point of time	1,533,910	1,730,273
Other revenue:		
Sale of intellectual properties (i)	3,615,846	3,612,090
	31,068,350	17,775,029

See note 32 for sales by geographic area.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

6. Revenues (continued)

(i) Sale of intellectual properties

During the year, the Company sold intellectual property to a subsidiary of a company in which it holds a strategic investment for a non-refundable fee of \$3.3 million. Under the terms of the sale agreement, control of the intellectual property was transferred to the purchaser and the Company has no obligation to undertake activities that will significantly affect the intellectual property. The terms of the agreement also include royalty payments based on the percentage of sales. No royalty income was recognized at the time of the transaction.

In September 2020, the Company sold intellectual property to a subsidiary of a company in which it holds a strategic investment for a non-refundable fee of \$2.4 million. Under the terms of the sale agreement, control of the intellectual property was transferred to the purchaser and the Company has no obligation to undertake activities that will significantly affect the intellectual property. The terms of the agreement also include additional variable consideration that can be received from based on the greater of 10% of sales made by the purchaser, and minimum royalties of \$50,000 in 2021, \$100,000 in 2022, \$150,000 in 2023, and \$200,000 in 2024 and every year thereafter (see note 11). The Company has also amended a previous agreement with a company in which it holds a strategic investment to reinstate minimum royalties that were previously waived by the Company related to a sale of intellectual property that occurred in 2016. The terms of this agreement also include additional variable consideration that can be received based on the greater of 10% of sales made by the purchaser, and minimum royalties of \$200,000 in 2021 and \$250,000 in 2022 and every year thereafter (see note 12).

The Company only recognizes variable consideration, including minimum royalties, arising from these agreements in the period(s) when it is highly probable that a reversal will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Minimum royalties are recognized for the period the Company evaluates the collectability of the minimum royalties is probable, which the Company has estimated over four years.

(ii) Transaction price allocated to remaining performance obligations

As at December 31, 2021, revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partially satisfied) at the reporting date is \$43,458,148 (2020 - \$29,999,009). Revenue will be recognized as the Company satisfies its performance obligations under long-term contracts, which is expected to occur over the next 3 years.

7. Cash and cash equivalents

As at December 31, 2021 and 2020, there are no restrictions on cash and cash equivalents. Cash and cash equivalents include the following components:

	2021	2020
	\$	\$
Cash	3,568,561	10,104,899
Guaranteed investment certificates	8,633,952	8,000,000
Cash and cash equivalents	12,202,513	18,104,899

Guaranteed investment certificates are instruments issued by Canadian financial institutions and include \$3,000,000 bearing interest at a rate of 0.37%, \$5,000,000 bearing interest at a rate of 0.86%, and \$633,952 bearing interest at a rate of 0.08%. These instruments are redeemable without penalty 60 days, 30 days and 30 days from the date of acquisition and mature in January 2022, September 2022, and December 2022.

PyroGenesis Canada Inc.
Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

8. Accounts receivable

Details of accounts receivable were as follows:

	December 31, 2021	December 31, 2020
	\$	\$
1 – 30 days	2,260,428	309,362
31 – 60 days	44,838	226,713
61 – 90 days	6,855,822	253,141
Greater than 90 days	7,357,825	218,008
Total trade accounts receivable	16,518,913	1,007,224
Unbilled trade receivables	–	1,132,911
Other receivables ¹	270,536	931,041
Sales tax receivable	850,167	258,477
	17,639,616	3,329,653

¹ At December 31, 2020 comprised mainly of an amount of \$893,000 to be received upon the sale of HPQ concluded prior to year end.

As at December 31, 2021 the allowance for expected credit loss is \$520,000 (2020 - \$Nil), which was included through the business combination and has not changed throughout the period.

9. Costs and profits in excess of billings on uncompleted contracts

As at December 31, 2021, the Company had fourteen contracts with total billings of \$16,676,700 which were less than total costs incurred and had recognized cumulative revenue of \$21,599,410 since those projects began. This compares with seven contracts with total billings of \$8,378,093 which were less than total costs incurred and had recognized cumulative revenue of \$9,451,726 as at December 31, 2020.

Changes in costs and profits in excess of billings on uncompleted contracts during the year are explained by \$983,891 (2020 - \$93,415) recognized at the beginning of the year being transferred to accounts receivable, and \$4,832,968 (2020 - \$1,044,072) resulting from changes in the measure of progress.

10. Investment tax credits

An amount recognized in 2021 included \$202,472 (2020 - \$131,871) of investment tax credits earned in the year, as well as (\$706,000) of investment tax credits earned in prior years that no longer met the criteria for recognition in 2021. \$148,695 (2020 - \$18,420) of the investment tax credits recognized in the year was recorded against cost of sales and services, (\$684,709) (2020 - \$1,141,468) against research and development expenses and \$32,486 (2020 - \$30,000) against selling general and administrative expenses.

Eligible scientific research and experimental development ("SR&ED") expenses for the year amounted to \$2,000,853 (2020 - \$775,824) less investment tax credits of (\$684,709) (2020 - \$1,141,468), less government grants of \$149,575 (2020 - \$365,433) totalling \$2,535,987 (2020 - (\$731,077)).

11. Strategic investments

	December 31, 2021	December 31, 2020
	\$	\$
Beauce Gold Fields ("BGF") shares – level 1	123,095	123,095
HPQ Silicon Resources Inc. ("HPQ") shares - level 1	12,306,196	16,489,220
HPQ warrants – level 3	2,472,368	23,379,435
	14,901,659	39,991,750

PyroGenesis Canada Inc.
Notes to the Consolidated Financial Statements
For the years ended December 31, 2021 and 2020

11. Strategic investments (continued)

The change in the strategic investments is summarized as follows:

	("BGF") shares – level 1		("HPQ") shares - level 1		HPQ warrants – level 3	
	Quantity	\$	Quantity	\$	Quantity	\$
Balance, December 31, 2019	1,025,794	133,354	18,450,000	1,476,000	17,750,000	–
Additions	–	–	7,887,000	3,395,742	5,200,000	560,000
Received in lieu of payment of services rendered	–	–	4,394,600	395,514	4,394,600	–
Exercised	–	–	1,500,000	540,000	(1,500,000)	(337,500)
Disposed	–	–	(17,241,400)	(10,798,056)	–	–
Change in the fair value	–	(10,259)	–	21,480,020	–	23,156,935
Balance, December 31, 2020	1,025,794	123,095	14,990,200	16,489,220	25,844,600	23,379,435
Additions	–	–	8,268,000	8,070,109	–	–
Exercised	–	–	16,250,000	11,700,000	(16,250,000)	(9,181,250)
Disposed	–	–	(12,755,600)	(14,252,732)	–	–
Change in the fair value	–	–	–	(9,700,401)	–	(11,725,817)
Balance, December 31, 2021	1,025,794	123,095	26,752,600	12,306,196	9,594,600	2,472,368

The Company owns 9.64% on a fully diluted basis of HPQ as at December 31, 2021 (2020 – 11.55%) and has other business transactions with this entity– see note 12.

The following table sets out the details and activity of the HPQ warrants:

Expiry date	Number of warrants			Number of warrants		Exercise price (\$)
	Dec. 31, 2020	Additions	Exercised	Dec. 31, 2021		
August 21, 2021	16,250,000	–	(16,250,000)	–		0.16
April 29, 2023	1,200,000	–	–	1,200,000		0.10
June 2, 2023	4,394,600	–	–	4,394,600		0.10
September 3, 2023	4,000,000	–	–	4,000,000		0.61
	25,844,600	–	(16,250,000)	9,594,600		

2021 Transactions

12,755,600 HPQ common shares were disposed for cash amounts totaling \$14,252,732 resulting in a realized gain of \$9,893,900. 16,250,000 shares purchase warrants were exercised in cash for a total amount of \$2,518,750. An amount of \$9,181,250 was transferred to the share value on the exercise of the warrants.

8,268,000 common shares of HPQ were purchased in cash for an amount of \$8,070,109.

2020 Transactions

1,200,000 common shares and 1,200,000 warrants of HPQ were purchased in cash for an amount of \$60,000 in April 2020.

4,394,600 common shares of HPQ and 4,394,600 warrants of HPQ were received in May 2020 to settle trade receivables from HPQ in the amount of \$395,414. At the transaction date, this non-monetary transaction was measured at the fair value of the trade receivables.

4,000,000 common shares and 4,000,000 warrants were purchased in cash for an amount of \$2,400,000 in September 2020.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

11. Strategic investments (continued)

2020 Transactions (continued)

2,687,000 common shares of HPQ were purchased in cash for an amount of \$1,495,742 and 16,429,400 common shares of HPQ were disposed for an amount of \$10,798,056. The disposal of the common shares of HPQ in 2020 had resulted in a realized gain of \$6,773,512.

1,500,000 HPQ warrants were exercised in cash for an amount of \$202,500 in December 2020.

At inception, the fair value of the HPQ warrants purchased in 2020 was measured using the Black-Scholes option pricing model using the following assumptions:

Number of warrants	1,200,000	4,394,600	4,000,000
Date of issuance	April 29, 2020	June 2, 2020	Sept. 3, 2020
Exercise price (\$)	0.10	0.10	0.61
Assumptions under the Back Sholes model:			
Fair value of the shares (\$)	0.04	1.05	1.05
Risk free interest rate (%)	0.30	0.20	0.20
Expected volatility (%)	97.45	114.80	112.52
Expected dividend yield			
Contractual remaining life (number of months)	36	29	32

As at December 31, 2021 and 2020, the fair value of the HPQ warrants was measured using the Black-Scholes option pricing model using the following assumptions:

	2021			2020		
Number of warrants	1,200,000	4,394,600	4,000,000	1,200,000	4,394,600	4,000,000
Date of issuance	April 29, 2020	June 2, 2020	Sept. 3, 2020	April 29, 2020	June 2, 2020	Sept. 3, 2020
Exercise price (\$)	0.10	0.10	0.61	0.10	0.10	0.61
Assumptions under the Back Sholes model:						
Fair value of the shares (\$)	0.46	0.46	0.46	1.05	1.05	1.05
Risk free interest rate (%)	1.22	1.22	1.22	0.2	0.2	0.2
Expected volatility (%)	89.88	94.01	110.47	115.3	114.8	112.52
Expected dividend yield						
Contractual remaining life (in months)	19	20	23	28	29	32

As at December 31, 2021, a gain from initial recognition of the warrants of \$510,573 (\$859,998 – 2020) has been deferred off balance sheet until realized.

12. Royalties receivable

	December 31 2021	December 31 2020
	\$	\$
Opening balance	1,060,000	–
Accretion interest	132,809	–
Royalties recognized during the year	450,000	1,600,000
Discounting	(134,155)	(390,000)
Amounts received during the year	(250,000)	(150,000)
Balance at end of the year	1,258,654	1,060,000
Current portion	311,111	–
Non-current portion	947,543	1,060,000
	1,258,654	1,060,000

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

12. Royalties receivable (continued)

The Company sold intellectual property to HPQ Silicon Resources Inc. ("HPQ") in 2016 ("HPQ 2016 contract") and its wholly owned subsidiary, HPQ Nano Silicon Powders Inc. in 2020 ("HPQ Nano contract"). In addition, in 2021 the Company sold intellectual property to HPQ Silica Polvere Inc. ("HPQ Polvere contract"), a wholly owned subsidiary of HPQ. The terms of those sales contracts include, in addition to the purchase price amounts already received of \$1,000,000 in 2016 and \$2,400,000 in 2020 and \$3,300,000 in 2021, respectively, the following variable consideration in the form of royalty payments:

HPQ 2016 contract:

Royalties are 10% of net sales, with minimum payments of \$200,000 in 2021 and \$250,000 in 2022 and every year thereafter. Payment is due no later than 30 days after the year end of HPQ Silicon Resources Inc. An amount of \$200,000 has been received under this agreement in 2021 (\$150,000 was received in 2020).

HPQ Nano contract:

Royalties are 10% of net sales, with minimum payments of \$50,000 in 2021, \$100,000 in 2022, \$150,000 in 2023, and \$200,000 in 2024 and every year thereafter. Payments are due no later than 10 days after the year end of HPQ Nano Silicon Powders Inc. An amount of \$50,000 has been received under this agreement in 2021.

HPQ Polvere contract:

Royalties are 10% of net sales with minimum payments of \$50,000 in 2023, \$100,000 in 2024, \$150,000 in 2025 and \$200,000 in 2026 and every year thereafter. Royalty payments are limited to the total net sales for the period. Payments are due no later than 10 days after the year end of HPQ Silica Polvere Inc.

During the year ended December 31, 2021, the Company recognized an additional \$250,000 and \$200,000 for the HPQ 2016 contract and HPQ Nano contracts, respectively, of royalties receivable, which have been discounted using 12.5% discount rate. See note 6.

During the year ended December 31, 2020, the Company recognized \$1,100,000 and \$500,000 for the HPQ 2016 and HPQ Nano contracts, respectively, of royalties receivable, which amounts have been discounted using a 12.5% rate. See note 6.

The HPQ Nano contract and the HPQ Polvere contract each provide the Company with the option to convert, at any time, the future royalties that would be owed to it into a 50% equity stake in HPQ Nano Silicon Powders Inc. and HPQ Silica Polvere Inc., respectively. Each option is considered an embedded derivative that is initially measured at fair value and subsequently remeasured at fair value at each reporting period. The Company determined that the embedded derivatives had a fair value of \$Nil at the inception of the contracts and \$Nil at each of the reporting dates.

13. Deposits

	December 31 2021	December 31 2020
	\$	\$
Current portion:		
Suppliers	1,236,211	1,421,246
Security deposit on leased premises	92,241	-
Total current	1,328,452	1,421,246
Non-current portion:		
Suppliers	1,952	1,099
Security deposit on leased premises	246,804	300,242
Total non-current	248,756	301,341
Total Deposits	1,577,208	1,722,587

PyroGenesis Canada Inc.
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For the years ended December 31, 2021 and 2020

14. Property and equipment

	Computer equipment	Machinery and equipment	Automobiles	Leasehold improvements	Equipment under construction	Total
	\$	\$	\$	\$	\$	\$
Cost						
Balance at December 31, 2019	521,988	1,621,899	21,912	165,006	1,671,962	4,002,767
Additions	27,671	–	306,164	15,895	268,272	618,002
Impairment	–	–	(21,912)	–	–	(21,912)
Balance at December 31, 2020	549,659	1,621,899	306,164	180,901	1,940,234	4,598,857
Acquired through business combination	13,585	28,967	–	–	–	42,552
Additions	245,984	384,092	30,495	752,204	84,143	1,496,918
Balance at December 31, 2021	809,228	2,034,958	336,659	933,105	2,024,377	6,138,327
Accumulated depreciation						
Balance at December 31, 2019	491,906	1,421,613	18,782	92,985	–	2,025,286
Depreciation	17,206	20,029	22,083	3,800	–	63,118
Impairment	–	–	(19,117)	–	–	(19,117)
Balance at December 31, 2020	509,112	1,441,642	21,748	96,785	–	2,069,287
Depreciation	88,410	182,739	59,959	24,995	–	356,103
Balance at December 31, 2021	597,522	1,624,381	81,707	121,780	–	2,425,390
Carrying amounts						
Balance at December 31, 2020	40,547	180,257	284,416	84,116	1,940,234	2,529,570
Balance at December 31, 2021	211,706	410,577	254,952	811,325	2,024,377	3,712,937

Equipment under construction includes the leasehold improvements of a clean room and the costs related to building the new Plasma Powder Production equipment.

15. Leases

The Company has entered into lease contracts mainly for buildings and computer equipment, which expire at various dates through the year 2036. Some leases have extension or purchase options for various terms. Some lease payments are based on changes in price indices. The lease contracts do not impose any financial covenants.

As of January 1, 2020, a lease for rent of a property with a trust whose beneficiary is the controlling shareholder and CEO of the Company was modified to amend the lease term, fix the annual rent increase at a rate of 2%, exercise the option to extend the term of the lease for five years and prepay the rent amount of \$1,178,530, which was presented against the lease liability. At the date of modification, the lease liability was remeasured and an amount of \$366,566 was recorded as an adjustment to the right-of-use asset. The lease liability was recalculated using a discount rate of 4%. As at December 31, 2020, the right-of-use asset and the lease liabilities related to this lease amount to \$1,328,557 and \$221,496 respectively (2019 - \$1,350,487 and 1,218,958). In 2020, the variable components of the leases which are not included in the lease liabilities under IFRS 16, comprise property taxes for an amount of \$258,042 (2019 - \$266,581) which were charged to the Company. In return the trust agreed to convert the 2020 Convertible loan approximately one year before its due date.

PyroGenesis Canada Inc.
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For the years ended December 31, 2021 and 2020

15. Leases (Continued)

a) Right-of-use assets

	Land and building	Computer equipment	Total
	\$	\$	\$
Balance at January 1, 2020	3,724,696	18,073	3,742,769
Remeasurement of lease liabilities	366,566	–	366,566
Depreciation	(402,947)	(5,388)	(408,335)
Balance at December 31, 2020	3,688,315	12,685	3,701,000
Addition - business combination	477,608	–	477,608
Addition	2,157,796	–	2,157,796
Depreciation	(566,182)	(4,228)	(570,411)
Balance at December 31, 2021	5,757,537	8,457	5,765,993

b) The table below summarizes changes to the lease liabilities:

	\$
Balance at January 1, 2020	3,985,026
Remeasurement	366,566
Payments	(1,363,050)
Balance at December 31, 2020	2,988,542
Addition - business acquisition	477,608
Additions - other	2,120,893
Payments	(263,078)
Balance at December 31, 2021	5,323,965
Current portion	2,934,236
Non-current portion	2,389,729
	5,323,965

c) Amount recognized in the statement of comprehensive loss:

	2021	2020
	\$	\$
Depreciation of right-of-use assets	570,411	408,335
Interest on lease liabilities	307,691	211,666
Expense related to lease payments not included in the measurement of lease liabilities	178,707	118,476

d) Maturity analysis – contractual undiscounted cash flows of lease liabilities as at December 31, 2021

	\$
2022	3,220,750
2023	353,380
2024	357,113
2025	332,296
2026	229,332
Thereafter	2,121,321
	6,614,192

PyroGenesis Canada Inc.
Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

16. Intangible assets

	Production backlog	Patents	Development costs	Total
	\$	\$	\$	\$
Cost				
Balance at December 31, 2019	–	572,486	244,871	817,357
Additions	–	305,420	–	305,420
Write-off	–	(109,514)	–	(109,514)
Balance at December 31, 2020	–	768,392	244,871	1,013,263
Acquired through business combination	2,120,000	–	–	2,120,000
Additions	–	214,497	–	214,497
Write-off	–	(85,544)	–	(85,544)
Balance at December 31, 2021	2,120,000	897,345	244,871	3,262,216
Accumulated amortization				
Balance at December 31, 2019	–	47,443	33,016	80,459
Amortization	–	10,682	16,508	27,190
Balance at December 31, 2020	–	58,125	49,524	107,649
Amortization	353,333	10,528	16,508	380,369
Balance at December 31, 2021	353,333	68,653	66,032	488,018
Carrying amounts				
Balance at December 31, 2020	–	710,267	195,347	905,614
Balance at December 31, 2021	1,766,667	828,692	178,839	2,774,198

The Company's development costs have been incurred to develop plasma related technologies and the patents protect the design and specification of these technologies.

17. Goodwill

The Company tests goodwill for impairment annually, or more frequently when an indicator of impairment is identified. Goodwill is considered impaired if the recoverable amount is less than the carrying amount.

The recoverable amount of an operating segment is determined based on value-in-use calculations, covering a detailed five-year forecast, followed by an extrapolation of expected cash flows for the remaining useful lives using a declining growth rate determined by management. The present value of the expected cash flows of the operating segment is determined by applying a suitable discount rate reflecting current market assessments of the time value of money and risks specific to the segment.

For the purpose of impairment testing, goodwill is allocated to the sole operating segment, Pyro Green-Gas, which is expected to benefit from the synergies of the business combination in which the goodwill arises, and is compared to its recoverable value.

At December 31, 2021, it was determined that the recoverable amounts exceed the carrying amount, and no impairment was required. The recoverable amount in the most recent impairment test performed was determined using a pre-tax discount rate of 8% and terminal growth rate of 2%.

PyroGenesis Canada Inc.
Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

18. Accounts payable and accrued liabilities

	December 31 2021	December 31 2020
	\$	\$
Accounts payable	5,457,259	2,206,249
Accrued liabilities	3,730,048	1,701,554
Sale commissions payable ¹	737,364	731,671
Accounts payable to the controlling shareholder and CEO	144,506	68,577
	10,069,177	4,708,051

¹Sale commissions payable relate to the costs to obtain long-term contracts with clients.

19. Billings in excess of costs and profits on uncompleted contracts

The amount to date of costs incurred and recognized profits less recognized losses for construction projects in progress amounted to \$21,834,137 (2020 - \$6,831,326).

Payments to date received were \$31,234,368 on contracts in progress (2020 - \$13,424,298).

Changes in billings in excess of costs and profits on uncompleted contracts during the year are explained by \$6,268,910 (2020 - \$1,282,217) recognized at the beginning of the year being recognized as revenue, and an increase of \$9,076,169 (2020 - \$4,790,536) resulting from cash received excluding amounts recognized as revenue.

PyroGenesis Canada Inc.
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For the years ended December 31, 2021 and 2020

20. Term loans

	EDC Loan ¹	Other Term Loans ²	Other Term Loans ³	Canada Emergency Business Account Loan ⁴	Other Term Loans ⁵	2019 SR&ED Tax Credit loan ⁶	2018 SR&ED Tax Credit loan ⁷	Total
	\$	\$	\$	\$	\$	\$	\$	\$
Balance, December 31, 2019	–	–	–	–	110,933	185,331	199,736	496,000
Addition	157,058	38,861	–	–	–	–	–	195,919
Financing costs	(83,119)	–	–	–	–	–	–	(83,119)
Accretion	1,861	–	–	–	4,267	40,902	14,264	61,294
Payments	–	(1,954)	–	–	(115,200)	(226,233)	(214,000)	(557,387)
Balance, December 31, 2020	75,800	36,907	–	–	–	–	–	112,707
Assumed through business combination	–	–	36,520	50,000	–	–	–	86,520
Accretion	12,185	–	–	–	–	–	–	12,185
Payments	–	(12,207)	(8,300)	–	–	–	–	(20,507)
Balance, December 31, 2021	87,985	24,700	28,220	50,000	–	–	–	190,905
Less current portion	–	(13,084)	(19,920)	(50,000)	–	–	–	(83,004)
Balance, December 31, 2021	87,985	11,616	8,300	–	–	–	–	107,901

¹ maturing in 2027, non-interest bearing, payable in equal instalments from July 2023 to June 2027

² maturing October 23, 2023 bearing interest at a rate of 6.95% per annum, payable in monthly instalments of \$1,200 secured by automobile (carrying amount of \$23,749 as at December 31, 2021)

³ maturing in May 2023, payable in monthly instalments of \$1,660, bearing interest at 7.45%

⁴ loan bearing no interest and no minimum repayment, if repaid by December 2023

⁵ bore interest at 8% per annum, repaid July 2020.

⁶ bore interest at 16.68%, repaid July 2020.

⁷ bore interest at 16.68%, repaid May 2020.

EDC Loan

On March 5, 2020, the Company entered into a repayable contribution agreement up to \$450,000 under the Regional Economic Growth through Innovation program from the Economic Development Agency of Canada ("EDC"). The contribution is repayable in 60 equal monthly instalments due and payable 24 months following the completion of the project. During the year ended December 31, 2020, the Company received contributions totaling \$157,058. The loan was discounted using the effective interest method. The effective interest rate on the loan is 15%.

Canada Emergency Business Account ("CEBA") Loan

The Company's subsidiary participated in the CEBA program whereby it obtained an interest free and partially forgivable loan. The loan bears no interest and no minimum repayment terms, and one third of the loan amount is forgiven if repaid by December 31, 2022. The unpaid balance, if any, at December 31, 2022 would be converted to a 24 month term loan bearing interest at 5% and be reimbursed entirely by December 31, 2024. In January 2022 the Government of Canada amended the program and the repayment date has been extended by 1 year, until December 31, 2023.

PyroGenesis Canada Inc.
Notes to the Consolidated Financial Statements
For the years ended December 31, 2021 and 2020

21. Convertible debentures

	2020 Convertible loan	2018 Convertible debentures	Total
			\$
Balance at December 31, 2019	–	2,898,358	2,898,358
Liability component at issuance	804,578	–	804,578
Effective interest accretion	22,982	155,642	178,624
	827,560	3,054,000	3,881,560
Repayment of debentures including accommodation fees, in cash	–	(358,500)	(358,500)
Conversion into common shares	(827,560)	(2,695,500)	(3,523,060)
Balance at December 31, 2020	–	–	–
Balance at December 31, 2021	–	–	–

2020 Convertible loan

On March 18, 2020, the Company closed a \$903,000 non-brokered secured convertible loan (“2020 Convertible loan”) at 12% per annum, with a trust whose beneficiary is the controlling shareholder and CEO of the Company. The loan bore interest at the rate of 12% per annum, with interest payable in cash on a quarterly basis in arrears with an initial maturity date of September 17, 2021. The loan was convertible before maturity, in whole at anytime or in part from time to time at a conversion price of \$0.28 at the option of the lender. The convertible loan was secured by a deed of hypothec charging on the universalities of movable assets.

At the issuance date, the 2020 Convertible loan was recorded as follows:

	\$
Liability component	804,578
Conversion option recognized in equity, net of transaction cost of \$47,338	98,422
Net proceeds	903,000

On September 30, 2020, the 2020 Convertible loan was converted into 3,225,000 common shares. Upon conversion, the equity component of \$98,422 was allocated to share capital. The conversion was performed in return for the modification of a lease agreement for rent of a property with the same trust whose beneficiary is the controlling shareholder and CEO of the Company (note 15).

2018 Convertible debentures

On March 30, 2020, the Company reached an agreement to extend the maturity date of its \$3,000,000 2018 convertible debentures to September 30, 2020, from the original maturity date of March 29, 2020. Under the terms of the agreement, the Company redeemed \$300,000 (representing 10% of the principal amount), paid a onetime accommodation fee of \$54,000, and is no longer subject to any prepayment penalties going forward. Upon redemption, an amount of \$40,779 corresponding to the equity component was reclassified to contributed surplus.

At the date of modification, the fair value of the 2018 Convertible debentures was determined using estimated cash flows discounted using a market interest rate of 17.5%. At the remeasurement date, a residual amount of \$16,875 representing the value of the conversion option equity component was classified in the shareholders’ Equity (Deficiency).

Upon conversion of the debentures in May and June 2020, 3,369,375 common shares were issued and the equity component of \$360,981 was classified in share capital.

22. Shareholders’ equity

Common shares and warrants

Authorized:

The Company is authorized to issue an unlimited number of common shares without par value.

Shares issued upon public issuance

On November 3, 2020, the Company closed a bought-deal short form prospectus offering of 3,354,550 units at a price of \$3.60 per unit for aggregate gross proceeds to the Company of \$12,076,380, including the full exercise of the over-allotment option. In connection with the offering, the Company paid issuance costs of \$1,640,052 in cash and issued 191,414 compensation options. Each compensation option entitles the holder thereof to purchase one unit at a price of \$3.60 until November 10, 2022. Each unit is comprised of one common share of the Company and one-half of one common share purchase warrant of the company. Each warrant entitles the holder to purchase one additional common share at an exercise price of \$4.50 for a period of 24 months.

PyroGenesis Canada Inc.
Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

22. Shareholders' equity (continued)

Shares issued upon public issuance (continued)

Under the warrant indenture, the Company has the right to accelerate the expiry date of the warrants to the date that is 30 days after delivery of a notice (the "Acceleration Notice") to the holders of warrants and the warrant agent confirming that the volume weighted average trading price of the Company's common shares on the Toronto Stock Exchange is greater than \$6.75 for 20 consecutive trading days (the "VWAP Requirement"). The VWAP Requirement was met as of close of business March 10, 2021. The Company delivered the Acceleration Notice and indicated that the warrants will expire on April 14, 2021.

Shares issued upon exercise of stock options, share purchase warrants and compensation options

During the year ended December 31, 2021, 3,482,000 (2,118,000 - 2020) stock options and 8,146,483 (7,060,617 - 2020) share purchase warrants were exercised for net proceeds of \$1,109,818 and \$12,396,107 (\$759,400 and \$5,623,323 - 2020) respectively. The amounts credited to share capital from the exercise of stock options include an ascribed value from contributed surplus of \$364,000 (\$484,807 - 2020). In addition the 191,414 compensation options were also exercised for net proceeds of \$689,090.

Conversion of loan into shares

On September 30, 2020, the 2020 Convertible loan with a carrying value of \$827,560 was converted into 3,225,000 common shares. Upon conversion, the liability component of \$98,422 was transferred to share capital (note 21).

Share redemptions for cancellation

In fiscal 2019, the Company had been authorized to repurchase, for cancellation, on the open market, or subject to the approval of any securities authority by private agreements, between November 1, 2019 and October 31, 2020, or at an earlier date if the Company concludes or cancels the offer, up to 6,750,000 of its common Shares. In January 2021, the Company announced it had been authorized to repurchase 5,000,000 Common shares from January 14, 2021 to January 13, 2022.

During the year 2020, the Company repurchased and cancelled 1,285,000 Common shares at a weighted average price of \$0.75, for a total cash consideration of \$964,391 including commissions of \$12,845. The excess of the total consideration over the carrying amount of the shares, in the amount of \$538,021, was applied against deficit.

During the year 2021, the Company repurchased and cancelled 840,094 Common shares at a weighted average price of \$4.96 per share, for a total cash consideration of \$4,183,617 including commissions of \$16,678. The excess of the total consideration over the carrying amount of the shares, in the amount of \$3,778,619 was applied against deficit.

The repurchases were made in the normal course of business at market prices through the TSX. The Company was under no obligation to repurchase its Common Shares as at December 31, 2021.

Stock options

The Company has a stock option plan authorizing the Board of Directors to grant options to directors, officers, employees and consultants to acquire common shares of the Company at a price computed by reference to the closing market price of the shares of the Company on the business day before the Company notifies the stock exchanges of the grant of the option. The number of shares which may be granted to any one person shall not exceed 5% (2% for consultants) of total share capital over a twelve-month period.

The following table sets out the activity in stock options:

	Number of options	Weighted average exercise price \$
Balance – December 31, 2019	8,438,000	0.37
Granted	2,810,000	4.23
Exercised ⁽¹⁾	(2,118,000)	0.36
Forfeited	(90,000)	1.02
Balance, December 31, 2020	9,040,000	1.57
Granted	2,970,000	4.55
Exercised ⁽¹⁾	(3,482,000)	0.32
Forfeited	(125,000)	4.41
Balance, December 31, 2021	8,403,000	3.10

⁽¹⁾ The weighted fair market value of the share price for options exercised in 2021 was \$5.48 (\$1.22 in 2020)

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

22. Shareholders' equity (continued)

Stock options (continued)

Grants in 2021

On December 30, 2021, the Company granted 100,000 stock options to a member of its Board of Directors. The stock options have an exercise price of \$3.61 per common share, vest immediately and are exercisable over a period of five (5) years.

On December 17, 2021, the Company granted 1,920,000 stock options to the President and Chief Executive Officer of the Company. The stock options have an exercise price of \$3.13 per common share, vest immediately and are exercisable over a period of five (5) years.

On October 14, 2021, the Company granted 100,000 stock options to the Chief Financial Officer of the Company. The stock options have an exercise price of \$5.04 per common share. The 100,000 options will vest as follows: 10 percent as of the day of the grant, 20 percent at the first anniversary of the date of the grant, 30 percent at the second anniversary of the date of the grant, and 40 percent at the third anniversary of the date of the grant and are exercisable over a period of five (5) years.

On June 14, 2021, the Company granted 100,000 stock options to an officer of the Company. The stock options have an exercise price of \$6.70 per common share. The 100,000 options will vest as follows: 25 percent at the date of the grant, 25 percent at the first anniversary of the date of grant, 25 percent at the second anniversary of the date of grant, and 25 percent at the third anniversary of the date of grant and are exercisable over a period of five (5) years.

On June 1, 2021, the Company granted 200,000 stock options to a member of its Board of Directors. The stock options have an exercise price of \$6.59 per common share. The 200,000 options will vest as follows: 25 percent at the date of the grant, 25 percent at the first anniversary of the date of grant, 25 percent at the second anniversary of the date of grant, and 25 percent at the third anniversary of the date of grant and are exercisable over a period of five (5) years.

On April 6, 2021, the Company granted 150,000 stock options to the President and Chief Executive Officer of the Company, 100,000 and 200,000 stock options to two members of the Board of Directors and 100,000 stock options to an employee of the Company. The stock options have an exercise price of \$8.47 per common share. Of these options, 250,000 will vest immediately, 200,000 options will vest as follows: 30 percent as of the day of the grant, 35 percent at the first anniversary of the date of the grant and 35 percent on the second anniversary of the date of the grant and the remaining 100,000 options will vest as follows: 10 percent as of the day of the grant, 20 percent at the first anniversary of the date of the grant, 30 percent at the second anniversary of the date of the grant, and 40 percent at the third anniversary of the date of the grant. All options mentioned above are exercisable over a period of five (5) years.

Grants in 2020

On October 26, 2020, the Company announced that it granted stock options to acquire 200,000 common shares of the Company to a member of the Board of Directors, and 50,000 common shares to an executive officer of the Company. The stock options have an exercise price of \$4.00 per common shares and are exercisable over a period of five (5) years.

On July 16, 2020, the Company granted an aggregate of 1,700,000 stock options to its directors entitling them to purchase an aggregate of 1,700,000 common shares of the Company, at a price of \$4.41 per common share. The 1,700,000 options will vest as follows: 25 percent at the date of the grant, 25 percent at the first anniversary of the date of grant, 25 percent at the second anniversary of the date of grant, and 25 percent at the third anniversary of the date of grant.

The Company also granted an aggregate of 760,000 stock options to employees entitling them to purchase an aggregate of 760,000 common shares of the Company, at a price of \$4.41 per common share. Of these options, 660,000 will vest as follows: 50 percent as of the date of grant and 50 percent at the first anniversary of the date of grant. The remaining 100,000 will vest as follows: 25 percent as of the date of grant, 25 percent at the first anniversary of the date of grant, 25 percent at the second anniversary of the date of grant and 25 percent at the third anniversary of the date of grant. All option grants disclosed above are exercisable for a period of five years.

On January 2, 2020, the Company granted 100,000 stock options to a Board of Directors, in his capacity of Chair of the Audit Committee of the Company. The stock options have an exercise price of \$0.45 per Common Shares, vest immediately and is exercisable over a period of five (5) years.

PyroGenesis Canada Inc.
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For the years ended December 31, 2021 and 2020

22. Shareholders' equity (continued)

The weighted average fair value of stock options granted for the year ended December 31, 2021 was \$2.99 (\$2.88 in 2020) per option. The weighted average fair value of each option granted was estimated at the grant date for purposes of determining share-based payment expense using the Black-Scholes option pricing model based on the following weighted-average assumptions:

Years ended December 31,	2021	2020
Number of options granted	2,970,000	2,810,000
Exercise price (\$)	4.55	4.23
Fair value of each option under the Black Scholes pricing model (\$)	2.99	2.88
Assumptions under the Black Scholes model:		
Fair value of the market share (\$)	4.52	4.23
Risk free interest rate (%)	1.11	0.38
Expected volatility (%)	83.00	88.49
Expected dividend yield	-	-
Expected life (number of months)	60	60
Forfeiture rate (%)	-	-

The underlying expected volatility was determined by reference to historical data of the Company's share price. No special features inherent to the stock options granted were incorporated into the measurement of fair value.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

22. Shareholders' equity (continued)

As at December 31, 2021, the outstanding options, as issued under the stock option plan to directors, officers, employees and consultants for the purchases of one common share per option, are as follows:

	Number of stock options				Number of stock options		Exercise price per option	Expiry date
	Dec 31, 2020	Granted	Exercised	Forfeitures	Dec 31, 2021	vested ⁽¹⁾		
							\$	
September 25, 2016	3,000,000	–	(3,000,000)	–	–	–	0.18	Sept 25, 2021
November 3, 2017	2,420,000	–	(20,000)	–	2,400,000	2,400,000	0.58	Nov 3, 2022
May 10, 2018	250,000	–	(250,000)	–	–	–	0.52	May 10, 2023
July 3, 2018	300,000	–	–	–	300,000	300,000	0.51	July 3, 2023
October 29, 2018	70,000	–	(30,000)	–	40,000	40,000	0.52	Oct 29, 2023
September 29, 2019	200,000	–	(100,000)	–	100,000	100,000	0.51	Sept 29, 2024
January 2, 2020	100,000	–	–	–	100,000	100,000	0.45	Jan 2, 2025
July 16, 2020	2,450,000	–	(82,000)	(125,000)	2,243,000	1,343,000	4.41	Jul 16, 2025
October 26, 2020	250,000	–	–	–	250,000	125,000	4.00	Oct 26, 2025
April 6, 2021	–	550,000	–	–	550,000	320,000	8.47	Apr 6, 2026
June 1, 2021	–	200,000	–	–	200,000	50,000	6.59	June 1, 2026
June 14, 2021	–	100,000	–	–	100,000	25,000	6.70	June 14, 2026
October 14, 2021	–	100,000	–	–	100,000	10,000	5.04	Oct 14, 2026
December 17, 2021	–	1,920,000	–	–	1,920,000	1,920,000	3.13	Dec 17, 2026
December 30, 2021	–	100,000	–	–	100,000	100,000	3.61	Dec 30, 2026
	9,040,000	2,970,000	(3,482,000)	(125,000)	8,403,000	6,833,000	3.10	

⁽¹⁾ At December 31, 2021, the weighted average exercise price for options outstanding which are exercisable was \$2.59.

For the year ended December 31, 2021, a stock-based compensation expense of \$9,762,745 (2020 - \$4,244,608) was recorded in Selling, general and administrative expenses to the Consolidated Statements of Comprehensive income (loss).

As at December 31, 2021, an amount of \$2,719,354 (2020 - \$3,904,882) remains to be amortized until October 2025 related to the grant of stock options.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

22. Shareholders' equity (continued)

Share purchase warrants

The following table reflects the activity in warrants during the years ended December 31, 2021 and the number of issued and outstanding share purchase warrants at December 31, 2021:

	Number of warrants Dec 31, 2020	Issued	Exercised	Expired	Number of warrants Dec 31, 2021	Price per warrant \$	Expiry date
Issuance of units – September 28, 2018	3,448,276	–	(3,448,276)	–	–	0.58	Jan 28, 2021
Issuance of units – October 19, 2018	100,000	–	(100,000)	–	–	0.58	Feb 13, 2021
Issuance of units – May 15, 2019	1,355,500	–	(1,355,500)	–	–	0.85	May 15, 2021
Issuance of units – May 28, 2019	750,000	–	(750,000)	–	–	0.85	May 24, 2021
Issuance of units – June 19, 2019	500,000	–	(500,000)	–	–	0.85	Jun 19, 2021
Issuance of units – October 25, 2019	225,000	–	(225,000)	–	–	0.75	Oct 25, 2021
Issuance of units – November 10, 2020	1,677,275	–	(1,672,000)	(5,275)	–	4.50	Nov 10, 2022 ¹
Issuance of warrants – November 10, 2020	95,707	–	(95,707)	–	–	4.50	Nov 10, 2022 ¹
	8,151,758	–	(8,146,483)	(5,275)	–	1.52	

¹On March 10, 2021, the Company has delivered the Acceleration Notice to accelerate the expiry date of the warrants to April 14, 2021 issued on November 10, 2020

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

23. Supplemental disclosure of cash flow information

	2021	2020
	\$	\$
Accounts receivable	(12,372,139)	(2,622,018)
Costs and profits in excess of billings on uncompleted contracts	(3,849,077)	(950,653)
Inventory	(839,352)	–
Investment tax credits receivable	1,015,862	(562,980)
Royalties receivable	(65,845)	(1,060,000)
Deposits	145,379	(1,394,160)
Contract assets	–	(855,592)
Prepaid expenses	39,111	(39,042)
Accounts payable and accrued liabilities	1,953,208	(148,678)
Billings in excess of costs and profits on uncompleted contracts	1,485,969	3,508,315
Income taxes	(99,072)	–
	(12,585,956)	(4,124,808)

24. Supplemental disclosure on comprehensive income statement

The amount of inventories recognized in cost of sales is \$326,279 for the year ended December 31, 2021 (\$Nil in 2020).

The aggregate amortization and write-off of intangible assets expense for the year ended December 31, 2021 was \$465,913 (2020 - \$27,190) and was recorded in cost of sales and services.

Depreciation on property and equipment amounted to \$356,103 and ROU assets was \$570,411 for the year ended December 31, 2021, as compared to (2020 - \$63,118 and \$408,335 respectively) and is recorded in selling, general and administrative. During the year ended December 31, 2021 costs to obtain long term contracts of \$Nil (2020 - \$161,219) were recognized to selling, general and administrative expenses.

Employee benefits totaled \$21,855,957 in the year ended December 31, 2021 (2020 - \$11,801,314) and include share-based compensation of \$9,762,745 (2020 - \$4,244,608).

The Company has been awarded various grants during the year, which were recognized when they became receivable. The grants, received in 2021, are unconditional and amounted to \$226,420 (2020 - \$419,661). An amount of \$149,575 (2020 - \$365,433) was recorded as a reduction to the related expenses in research and development, an amount of \$76,845 (2020 - \$54,228) was recorded as a reduction to the related expenses in selling, general and administrative.

The Company in 2020 applied for an amount of \$775,967 in wage subsidy under the CEWS program. An amount of \$118,416 was recorded as a reduction to employee compensation under cost of sales and services, \$504,339 was recorded as a reduction to employee compensation under selling, general and administrative expenses, and \$153,212 was recorded as a reduction to employee compensation under research and development costs.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

25. Net finance costs

	2021	2020
	\$	\$
Financial expenses		
Interest and fees on convertible debentures	–	171,042
Interest accretion of convertible debentures	–	182,700
Interest on term loans	99,960	20,957
Interest on lease liabilities	307,691	211,666
Interest accretion on promissory notes and on balance due on business combination	110,203	17,937
Penalties and other interest expenses	19,325	57,550
Capitalized borrowing costs on Equipment under construction	–	(137,778)
	537,179	524,074
Financial income		
Accretion interest on royalty receivable	(132,809)	–
Net finance costs	404,370	524,074

26. Earnings (loss) per share

The following table provides a reconciliation between the number of basic and fully diluted shares outstanding as at December 31, 2021 and 2020:

	2021	2020
	\$	\$
Weighted daily average of Common shares	166,645,546	148,315,445
Dilutive effect of stock options	–	5,375,592
Dilutive effect of warrants	–	4,611,720
Weighted average number of diluted shares	166,645,546	158,302,757
Number of anti-dilutive stock options and warrants excluded from fully diluted earnings per share calculation	8,403,000	4,664,396

27. Related party transactions

During the year ended December 31, 2021 and 2020, the Company concluded the following transactions with related parties:

In 2021, rent and property taxes were charged by a trust whose beneficiary is the controlling shareholder and CEO of the Company in the amount of \$274,934 (2020 - \$274,106). As of January 1, 2020, a lease for rental of a property with a trust whose beneficiary is the controlling shareholder and CEO of the Company was modified and extended for five years. At the date of modification, the lease liability was remeasured using a discount rate of 4% and an amount of \$366,566 was recorded as an adjustment to the right-of-use asset. The modified agreement included a requirement to prepay the rent amount of \$1,178,530 and the municipal tax amount of \$260,000. In return for the modification of the lease agreement, a 2020 convertible loan of \$903,000 from a trust whose beneficiary is the controlling shareholder and CEO of the Company, was converted into 3,225,000 common shares of the Company. These expenses are recorded in captions cost of sales and selling and general in the statement of comprehensive income (loss). As at December 31, 2021 the right-of-use asset and the lease liabilities amount to \$1,107,131 and \$Nil respectively (2020 - \$1,328,557 and \$221,496).

An amount of \$Nil (December 31, 2020 - \$58,050), of interest payable was accrued on the 2020 convertible loan of \$903,000 from a trust whose beneficiary is the controlling shareholder and CEO of the Company.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

27. Related party transactions (continued)

A balance due to the controlling shareholder and CEO of the Company amounted to \$144,506 (2020 - \$72,188) is included in accounts payable and accrued liabilities.

An amount of \$Nil (2020 - \$17,937), of interest accretion was expensed in net financing costs on the loan of \$295,000 from the controlling shareholder and CEO of the Company.

The key management personnel of the Company are the members of the Board of Directors and certain officers. Total compensation to key management consisted of the following:

	2021	2020
	\$	\$
Salaries – key management	3,049,501	2,148,420
Pension contributions	59,377	18,529
Fees – Board of Directors	187,600	150,000
Share-based compensation – officers	6,182,573	1,989,144
Share-based compensation – Board of Directors	2,338,650	846,410
Other benefits – key management	237,903	544,402
Total compensation	12,055,604	5,696,905

28. Financial instruments

As part of its operations, the Company carries a number of financial instruments. It is management's opinion that the Company is not exposed to significant interest, currency or credit risks arising from these financial instruments except as otherwise disclosed. The Company's overall risk management program focuses on the unpredictability of the financial market and seeks to minimize potential adverse effects on the Company's financial performance. The Company does not use derivative financial instruments to hedge these risks.

Foreign currency risk

The Company enters into transactions denominated in US dollars for which the related revenues, expenses, accounts receivable and accounts payable and accrued liabilities balances are subject to exchange rate fluctuations.

As at December 31, the Company's exposure to foreign exchange risk for amounts denominated in US dollars is as follows:

	2021	2020
	\$	\$
Cash	1,714,670	1,366,627
Accounts receivable	14,465,011	621,817
Accounts payable and accrued liabilities	(1,023,999)	(252,463)
Total	15,155,682	1,735,981

Foreign currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates.

Sensitivity analysis

At December 31, 2021, if the US Dollar changes by 10% against the Canadian dollar with all other variables held constant, the impact on pre-tax gain or loss and equity for the year ended December 31, 2021 would have been \$1,516,000 (December 31, 2020 - \$174,000).

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28. Financial instruments (continued)

Credit risk and credit concentration

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. The maximum credit risk to which the Company is exposed as at December 31, 2021 represents the carrying amount of cash and cash equivalents, accounts receivable (except sales tax receivable), deposits and royalties receivable. Cash and cash equivalents, which only comprise guaranteed investment certificates redeemable on relatively short notice by the Company, are held with major reputable financial institutions. The Company manages its credit risk by performing credit assessments of its customers. The Company does not generally require collateral or other security from customers on accounts receivable. The Company believes that there is no unusual exposure associated with the collection of these receivables. During the year ended December 31, 2021, four customers accounted for 79% (December 31, 2020 – two customers for 79%) of revenues from operations.

	2021		2020	
	Revenues	% of total revenues	Revenues	% of total revenues
	\$	%	\$	%
Customer 1	7,308,191	24	9,523,353	53
Customer 2	7,019,953	23	4,444,022	26
Customer 3	6,417,373	21	–	–
Customer 4	3,551,900	11	–	–
Total	24,297,417	79	13,967,375	79

One customer accounted for 73% (December 31, 2020 – two customers for 69%) of trade accounts receivable with amounts owing to the Company of \$12,063,636 (2020 - \$1,211,177), representing the Company's major credit risk exposure. Credit concentration is determined based on customers representing 10% or more of total revenues and/or total accounts receivable.

The royalties receivables are due from a company in which the Company has a strategic investments. The Company does not have collateral or other security associated with the collection of this receivable.

Fair value of financial instruments

The fair value represents the amount that would be received for the sale of an asset or paid for the transfer of a liability in an orderly transaction between market participants at the measurement date. The fair value estimates are calculated at a specific date taking into consideration assumptions regarding the amounts, the timing of estimated future cash flows and discount rates. Accordingly, due to its approximate and subjective nature, the fair value must not be interpreted as being realizable in an immediate settlement of the financial instruments.

There are three levels of fair value that reflect the significance of inputs used in determining fair values of financial instruments:

Level 1 — quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 — inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).

Level 3 — inputs for the asset or liability that are not based on observable market data.

The fair values of cash and cash equivalents, trade accounts receivable, deposits, accounts payable and accrued liabilities approximate their carrying amounts due to their short-term maturities.

PyroGenesis Canada Inc.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

28. Financial instruments (continued)

Investments in BGF and HPQ shares are valued at quoted market prices and are classified as Level 1.

Royalties receivable are discounted according to their corresponding agreements and are classified as Level 2.

Investments in HPQ warrants are valued using the Black-Scholes pricing model and are classified as Level 3.

The fair value of the term loans and the balance due on business combination as at December 31, 2021 is determined using the discounted future cash flows method and management's estimates for market interest rates for similar issuances. Given their recent issuance, their fair market values correspond to their carrying amount.

Interest rate risk

Interest rate risk is the risk that the value of a financial instrument might be adversely affected by a change in interest rates. Changes in market interest rates may have an effect on the cash flows associated with some financial assets and liabilities, known as cash flow risk, and on the fair value of other financial assets or liabilities, known as price risk, and on the fair value of investments or liabilities, known as price risks. The Company is exposed to a risk of fair value on cash equivalents, and term loans as those financial instruments bear interest at fixed rates.

Price risk

Price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market price (other than those arising from foreign currency risk and interest risk), whether those changes are caused by factors specific to the individual financial instrument or its issuers or factors affecting all similar financial instruments traded in the market. The most significant exposure to the price risk for the Company arises from its investments in shares and warrants of public companies quoted on the TSXV Exchange. If equity prices had increased or decreased by 25% as at December 31, 2021, with all other variables held constant, the Company's investments would have increased or decreased respectively, by approximately \$4,042,000 (December 31, 2020 25% - \$11,874,375).

Liquidity risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting obligations associated with financial liabilities that are settled by delivery of cash or another financial asset. The Company manages its liquidity risk by forecasting cash flows from operations and anticipating any investing and financing activities.

The following table summarizes the contractual amounts payable and maturities of financial liabilities and other liabilities as at December 31, 2021:

	Carrying value	Total contractual amount	Less than one year	2-3 years	4-5 years	Over 5 years
	\$	\$	\$	\$	\$	\$
Accounts payable and accrued liabilities	10,069,177	10,069,177	10,069,177	–	–	–
Term loans	190,905	263,232	85,731	67,561	62,823	47,117
Balance due on business combination	3,952,203	4,355,600	2,395,580	1,960,020	–	–
Lease liabilities	5,323,965	6,614,192	3,220,750	710,493	561,628	2,121,321
	19,536,250	21,302,201	15,771,238	2,738,074	624,451	2,168,438

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28. Financial instruments (continued)

Liquidity risk (Continued)

A standby letter of credit issued by the Company's subsidiary, in the amount of USD \$66,300 (\$84,055) was outstanding at December 31, 2021. In addition, the subsidiary has a maximum available line of credit of \$500,000, expiring in January 2023. At December 31, 2021, \$436,000 was drawn against this facility.

29. Contingent liabilities

The Company is currently a party to various legal proceedings. If management believes that a loss arising from these proceedings is probable and can reasonably be estimated, that amount of the loss is recorded. As additional information becomes available, any potential liability related to these proceedings is assessed and the estimates are revised, if necessary. Based on currently available information, management believes that the ultimate outcome of these proceedings, individually and in aggregate, will not have a material adverse effect on the Company's financial position or overall trends in results of operations.

The Company had received a government grant in prior years of approximately \$800,000 to assist with the development of a new system of advanced waste treatment systems technology. The grant is potentially repayable at the rate of 3% of any consideration received as a result of the project, for which funding has been received, to a maximum of the actual grant received. This repayment provision will remain in effect until May 30, 2024. The Company abandoned the project in 2011 and accordingly, no amount is expected to be repaid.

30. Capital management

The Company's objectives in managing capital are:

- a) To ensure sufficient liquidity to support its current operations and execute its business plan; and
- b) To provide adequate return to the shareholders

The Company's primary objectives when managing capital is to ensure the Company continues as a going concern as well as to maintain optimal returns to shareholders and benefits for other stakeholders.

The Company currently funds these requirements from cash flows from operations and with financing arrangements with third parties and shareholders. The Company is not subject to any externally imposed capital requirements.

The Company monitors its working capital in order to meet its financial obligations. As at December 31, 2021, the Company's working capital was \$14,006,785 (2020 - \$13,797,579).

The management of capital includes shareholders' equity for a total amount of \$40,768,754 (2020 - \$59,423,106) and term loans of \$190,905 (2020 - \$112,707), as well as cash and cash equivalents amounting to \$12,202,513 (2020 - \$18,104,899).

Although there were no significant changes in the Company's approach during the current and preceding fiscal year, in 2020 the Company was able to retire its term loans and convert its convertible debentures to common shares. In order to maintain or adjust capital structure, the Company may issue new shares, sell portions of its strategic investment and periodically purchase its own shares on the open market.

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31. Income taxes

a) Income tax expenses is comprised of the following:

	2021	2020
	\$	\$
Current tax		
Current year	(155,714)	327,412
Deferred tax		
Origination and reversal of temporary differences	(5,095,595)	6,816,080
Recognition of previously unrecognized tax assets	-	(170,082)
Change in unrecognized deductible temporary differences	4,511,349	(5,939,998)
	(584,246)	706,000
Income tax expense (recovery)	(739,960)	1,033,412

b) Reconciliation of effective tax rate

	2021	2020
	\$	\$
Income (loss) before income taxes	(39,171,899)	42,801,816
Income tax rates	26.5%	26.5%
Income tax expense (recovery) at the combined basic Federal and Provincial tax rates	(10,380,553)	11,342,481
Permanent differences	5,079,805	(5,072,219)
Tax rate changes	8,334	37,443
Prior year adjustment	60,533	835,787
Recognition of previously unrecognized tax assets	-	(170,082)
Change in unrecognized deductible temporary differences	4,511,349	(5,939,998)
Other	(19,428)	-
Income tax expense (recovery)	(739,960)	1,033,412

The applicable statutory tax rates are 26.5% in 2021 and 26.5% in 2020. The Company's applicable tax rate is the Canadian combined rates applicable in the jurisdiction in which the Company operates.

c) Deferred tax assets and liabilities

Recognized deferred tax assets and liabilities:

As at December 31, 2021 and 2020, recognized deferred tax assets and liabilities are attributable to the following:

	Assets		Liabilities		Net	
	2021	2020	2021	2020	2021	2020
	\$	\$	\$	\$	\$	\$
Non-capital losses carried forward	1,705,073	4,982,328	-	-	1,705,073	4,982,328
Strategic investments	-	-	(656,507)	(4,919,499)	(656,507)	(4,919,499)
Investment tax credits	-	-	-	(273,854)	-	(273,854)
Royalty receivable	-	-	(333,543)	(280,900)	(333,543)	(280,900)
Property and equipment	-	-	(147,127)	(25,273)	(147,127)	(25,273)
Intangibles	-	-	(468,167)	-	(468,167)	-
Deferred income	-	-	(21,000)	-	(21,000)	-
Right-of-use assets net of liabilities	-	-	(121,123)	(188,802)	(121,123)	(188,802)
Tax assets (liabilities)	1,705,073	4,982,328	(1,747,467)	(5,688,328)	(42,394)	(706,000)
Set off of tax	(1,705,073)	(4,982,328)	1,705,073	4,982,328	-	-
Net tax assets (liabilities)	-	-	(42,394)	(706,000)	(42,394)	(706,000)

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31. Income taxes (continued)

Deferred taxes from temporary differences and unused tax losses and tax credits are summarized as follows:

	January 1, 2020	Recognized in profit or loss	December 31, 2020	Recognized in profit or loss	Recognized in business combination	December 31, 2021
	\$	\$	\$	\$	\$	\$
Deferred tax assets (liabilities)						
Property and equipment	–	–	–	621	(2,840)	(2,219)
Intangible assets	–	–	–	93,583	(559,949)	(466,366)
Deferred income	–	–	–	(21,000)	–	(21,000)
Non-capital losses carried forward	–	–	–	(194,958)	642,149	447,191
Investment tax credit	–	(706,000)	(706,000)	706,000	–	–
	–	(706,000)	(706,000)	584,246	79,360	(42,394)

As at December 31, 2021 and 2020, the amounts and expiry dates of tax attributes and temporary differences for which no deferred tax assets were recognized are as follows:

	December 31, 2021		December 31, 2020	
	Federal	Provincial	Federal	Provincial
	\$	\$	\$	\$
Research and development expenses, Without time limitation:	11,399,104	–	9,917,779	9,511,671
Federal research and development investment tax credits:				
2029	299,881	–	–	–
2030	89,879	–	–	–
2031	223,759	–	–	–
2032	186,031	–	–	–
2033	105,216	–	–	–
2034	212,609	–	361,430	–
2035	488,555	–	488,555	–
2036	359,594	–	359,594	–
2037	253,885	–	253,885	–
2038	186,015	–	186,015	–
2039	465,535	–	411,540	–
2040	101,562	–	142,367	–
2041	359,115	–	–	–
	3,331,636	–	2,203,386	–

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31. Income taxes (continued)

	December 31, 2021			December 31, 2020	
	Federal	Provincial	Italy	Federal	Provincial
	\$	\$	\$	\$	\$
Tax losses carried forward:					
2032	628,948	–	–	–	–
2033	2,047,643	1,490,639	–	–	–
2034	589,007	589,007	–	–	–
2035	703,664	416,827	–	–	–
2036	3,579,827	3,440,527	–	–	–
2037	1,577,876	1,568,739	–	–	–
2038	5,716,536	5,650,620	–	3,715,297	–
2039	4,163,315	4,079,919	–	4,163,315	1,108,382
2040	2,710,255	2,659,255	–	–	–
Indefinite	–	–	815,620	–	–
	21,717,071	19,895,533	815,620	7,878,612	1,108,382

	December 31, 2021		December 31, 2020	
	Federal	Provincial	Federal	Provincial
	\$	\$	\$	\$
Other deductible temporary differences,				
Without time limitation:				
Financing costs	1,100,504	1,100,504	1,538,633	1,538,633
Intangible assets	3,712,181	3,431,133	3,908,608	3,599,602
Capital losses	464,768	464,768	–	–
	5,277,453	4,996,405	5,447,241	5,138,235

Deferred tax assets and investment tax credits have not been recognized in respect to these items because it is uncertain that future taxable profit will be available against which the Company can utilise the benefits therefrom. The generation of future taxable profit depends on the successful commercialisation of the Company's products and technologies.

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32. Segment information

The Company operates in one segment, based on financial information that is available and evaluated by the Company's Board of Directors. The Company's head office is located in Montreal, Quebec. The operations of the Company are located in three geographic areas: Canada, Italy and India.

The following is a summary of the Company's total revenues by geography:

	2021	2020
	\$	\$
Canada	7,395,312	5,828,186
United States	7,535,411	1,463,510
Europe	2,576,884	265,711
Mexico	786,154	174,818
Asia	420,268	–
Israel	491	4,007
Saudi Arabia	7,019,954	9,523,353
China	134,664	296,031
South America	1,475,607	181,184
India	3,723,605	–
Africa	–	38,229
	31,068,350	17,775,029

Revenue by product line and revenues recognized by revenue recognition method are presented in note 6.

The following is a summary of selected asset categories by geographic market, at December 31:

	2021				2020
	\$	\$	\$	\$	\$
	Canada	Italy	India	Total	Total
Property and equipment	3,685,974	–	26,963	3,712,937	2,529,570
Right-of-use assets	5,765,993	–	–	5,765,993	3,701,000
Intangible assets	2,774,198	–	–	2,774,198	905,614
Goodwill	2,660,607	–	–	2,660,607	–

In 2020, the asset categories above were all located in Canada.

33. Subsequent event

On February 11, 2022, the Company announced that it has received acceptance from the TSX of its notice of intention for a Normal Course Issuer Bid, enabling it to acquire for cancellation up to 7,500,000 common shares from February 15, 2022 to February 14, 2023.