Consolidated Financial Statements
(Expressed in U.S. dollars)

BALLARD POWER SYSTEMS INC.

Years ended December 31, 2021 and 2020

MANAGEMENT'S REPORT

Management's Responsibility for the Financial Statements and Report on Internal Control over Financial Reporting

The consolidated financial statements contained in this Annual Report have been prepared by management in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board. The integrity and objectivity of the data in these consolidated financial statements are management's responsibility. Management is also responsible for all other information in the Annual Report and for ensuring that this information is consistent, where appropriate, with the information and data contained in the consolidated financial statements.

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external reporting purposes in accordance with IFRS. Internal control over financial reporting may not prevent or detect fraud or misstatements because of limitations inherent in any system of internal control. Management has assessed the effectiveness of the Corporation's internal control over financial reporting based on the framework in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and concluded that the Corporation's internal control over financial reporting was effective as of December 31, 2021. In addition, management maintains disclosure controls and procedures to provide reasonable assurance that material information is communicated to management and appropriately disclosed. Some of the assets and liabilities include amounts, which are based on estimates and judgments, as their final determination is dependent on future events.

The Board of Directors oversees management's responsibilities for financial reporting through the Audit Committee, which consists of eight directors who are independent and not involved in the daily operations of the Corporation. The Audit Committee meets on a regular basis with management and the external and internal auditors to discuss internal controls over the financial reporting process, auditing matters and financial reporting issues. The Audit Committee is responsible for appointing the external auditors (subject to shareholder approval), and reviewing and approving all financial disclosure contained in our public documents and related party transactions.

The external auditors, KPMG LLP, have audited the financial statements and expressed an unqualified opinion thereon. KPMG has also expressed an unqualified opinion on the effective operation of the internal controls over financial reporting as of December 31, 2021. The external auditors have full access to management and the Audit Committee with respect to their findings concerning the fairness of financial reporting and the adequacy of internal controls.

"RANDALL MACEWEN"

RANDALL MACEWEN
President and
Chief Executive Officer
March 11, 2022

"PAUL DOBSON"

PAUL DOBSON
Vice President and
Chief Financial Officer
March 11, 2022

KPMG LLP
Chartered Professional Accountants
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Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Ballard Power Systems Inc.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of financial position of Ballard Power Systems Inc. and subsidiaries (the Corporation) as of December 31, 2021 and 2020, the related consolidated statements of loss and comprehensive income (loss), changes in equity, and cash flows for each of the years then ended, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Corporation as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the years then ended, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Corporation's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 11, 2022 expressed an unqualified opinion on the effectiveness of the Corporation's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Corporation's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Corporation 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 audits 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. Our audits 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 audits 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 audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Estimated costs to complete engineering and technology transfer services for long-term fixed-price contracts

As discussed in Notes 4(j) and 5(a) to the consolidated financial statements, the Corporation recognizes engineering and technology transfer service revenues from long-term fixed-price contracts over time by multiplying the expected consideration from the contract by the ratio of the cost incurred to date to estimated costs to complete the contract. Engineering and technology transfer service revenues from long-term fixed-price contracts are inherently uncertain in that total revenue from these contracts is fixed while the amount recognized to a period end requires estimates of costs to complete these contracts which estimates are subject to significant variability. As discussed in Note 23 to the consolidated financial statements engineering and technology transfer service revenues from long-term fixed-price contracts totaled $39,297 thousand for the year ended December 31, 2021.

We identified the evaluation of the estimate of costs to complete engineering and technology transfer services for long-term fixed-price contracts as a critical audit matter. A higher degree of auditor judgment was required to evaluate the significant assumptions used to estimate costs to complete the contracts, including the estimated labour hours and cost of materials to complete the contracts.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of an internal control related to the Corporation's determination of estimated costs to complete long-term fixed-price contracts, including the determination the significant assumptions. For a selection of long-term fixed-price contracts we compared the Corporation's historical estimated costs to complete contracts to actual labour hours and cost of materials incurred to assess the Corporation's ability to accurately forecast. We evaluated the estimated costs to completion for a selection of customer contracts, by (1) inspecting contractual documents with customers to understand the timing of services; (2) interviewing operational personnel of the Corporation to evaluate progress to date, the estimate of costs to complete contracts, and factors impacting the estimated labour hours and cost of material to complete the contracts; (3) evaluating contract progress by inspecting correspondence between the Corporation and the customer; (4) evaluating the cost to complete the contracts for consistency with the status of delivery and the underlying contractual terms; (5) comparing the Corporation's current estimate of costs to complete the contracts to those estimated in prior periods and investigating changes during the period; and (6) comparing labour hours and cost of materials incurred subsequent to the Corporation's year-end date to assess the consistency with the estimated costs for the period.

//s// KPMG LLP

We have served as the Corporation's auditor since 1999.

Chartered Professional Accountants

Vancouver, Canada
March 11, 2022

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Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Ballard Power Systems Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Ballard Power Systems Inc.'s and subsidiaries' (the Corporation) internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statements of financial position of the Corporation as of December 31, 2021 and 2020, the related consolidated statements of loss and comprehensive income (loss), changes in equity, and cash flows for each of the years then ended, and the related notes (collectively, the consolidated financial statements), and our report dated March 11, 2022 expressed an unqualified opinion on those consolidated financial statements.
The Corporation acquired Arcola Energy Limited during 2021, and management excluded from its assessment of the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2021, Arcola Energy Limited's internal control over financial reporting associated with total assets of $44,591 thousand and total revenues of $138 thousand included in the consolidated financial statements of the Corporation as of and for the year ended December 31, 2021. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of Arcola Energy Limited.

Basis for Opinion

The Corporation's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying "Management's Responsibility for the Financial Statements and Report on Internal Control over Financial Reporting" . Our responsibility is to express an opinion on the Corporation's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Corporation 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 effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

//s// KPMG LLP

Vancouver, Canada

March 11, 2022

BALLARD POWER SYSTEMS INC.

Consolidated Statements of Financial Position

(Expressed in thousands of U.S. dollars)

	Note	**December 31, 2021**	December 31, 2020
Assets			
Current assets:			
Cash and cash equivalents		**$ 1,123,895**	$ 763,430
Short-term investments		**3,004**	2,000
Trade and other receivables	9	**46,395**	56,795
Inventories	10	**51,518**	28,522
Prepaid expenses and other current assets		**4,374**	3,568
Total current assets		**1,229,186**	854,315
Non-current assets:			
Property, plant and equipment	11	**56,061**	49,334
Intangible assets	12	**20,788**	3,764
Goodwill	13	**64,268**	40,277
Investments	14	**70,292**	27,566
Other long-term assets		**348**	343
Total assets		**$ 1,440,943**	$ 975,599
Liabilities and Equity			
Current liabilities:			
Trade and other payables	16	**$ 39,555**	$ 29,877
Deferred revenue	17	**12,109**	9,888
Provisions and other current liabilities	18	**28,257**	9,635
Current lease liabilities	19	**3,238**	2,691
Total current liabilities		**83,159**	52,091
Non-current liabilities:			
Non-current lease liabilities	19	**13,882**	15,182
Deferred gain on finance lease liability	19	**1,318**	1,734
Provisions and other non-current liabilities	18	**8,895**	1,764
Employee future benefits	20	**1,894**	3,941
Deferred income tax liability	7 & 27	**3,578**	—
Total liabilities		**112,726**	74,712
Equity:			
Share capital	21	**2,416,256**	1,884,735
Contributed surplus	21	**297,819**	290,761
Accumulated deficit		**(1,387,579)**	(1,275,516)
Foreign currency reserve		**1,721**	907
Total equity		**1,328,217**	900,887
Total liabilities and equity		**$ 1,440,943**	$ 975,599

See accompanying notes to consolidated financial statements.

Approved on behalf of the Board:

“Doug Hayhurst”
Director

“Jim Roche”
Director

BALLARD POWER SYSTEMS INC.
Consolidated Statements of Loss and Comprehensive Income (Loss)
For the years ended December 31

(Expressed in thousands of U.S. dollars, except per share amounts and number of shares)

	Note	2021	2020
Revenues:			
Product and service revenues	23	$ 104,505	$ 103,877
Cost of product and service revenues		90,492	82,893
Gross margin		14,013	20,984
Operating expenses:			
Research and product development		62,162	35,519
General and administrative		24,725	16,234
Sales and marketing		12,904	8,616
Other expense	25	2,325	376
Total operating expenses		102,116	60,745
Results from operating activities		(88,103)	(39,761)
Finance income (loss) and other	26	(8,813)	4,282
Finance expense	26	(1,294)	(1,303)
Net finance income (loss)		(10,107)	2,979
Equity in loss of investment in joint venture and associates	14 & 28	(16,140)	(12,557)
Impairment charges on property, plant and equipment	11	(263)	—
Loss before income taxes		(114,613)	(49,339)
Income tax recovery (expense)	27	216	(130)
Net loss from continued operations		(114,397)	(49,469)
Net income (loss) from discontinued operations	8	164	(1,908)
Net loss		$ (114,233)	$ (51,377)
Other comprehensive income (loss):			
Items that will not be reclassified to profit or loss:			
Actuarial gain (loss) on defined benefit plans	20	2,170	(289)
		2,170	(289)
Items that may be reclassified subsequently to profit or loss:			
Foreign currency translation differences		814	94
		814	94
Other comprehensive income (loss), net of tax		2,984	(195)
Total comprehensive loss		$ (111,249)	$ (51,572)
Basic and diluted loss per share			
Continuing operations		$ (0.39)	$ (0.20)
Discontinued operations		—	(0.01)
Loss per share		$ (0.39)	$ (0.21)
Weighted average number of common shares outstanding		295,293,438	248,481,027

See accompanying notes to consolidated financial statements.

BALLARD POWER SYSTEMS INC.

Consolidated Statements of Changes in Equity

(Expressed in thousands of U.S. dollars except number of shares)

	Number of shares	Share capital	Contributed surplus	Accumulated deficit	Foreign currency reserve	Total equity
Balance, December 31, 2019	234,514,326	$ 1,182,660	$ 290,640	$ (1,223,850)	$ 813	$ 250,263
Net loss	—	—	—	(51,377)	—	(51,377)
Equity offerings (note 21)	45,557,548	694,608	—	—	—	694,608
DSUs redeemed (note 21)	7,608	14	(78)	—	—	(64)
RSUs redeemed (note 21)	305,229	633	(3,656)	—	—	(3,023)
Options exercised (note 21)	1,693,466	6,820	(2,382)	—	—	4,438
Share-based compensation (note 21)	—	—	6,237	—	—	6,237
Other comprehensive loss:						
Defined benefit plan actuarial gain (loss)	—	—	—	(289)	—	(289)
Foreign currency translation for foreign operations	—	—	—	—	94	94
Balance, December 31, 2020	282,078,177	$ 1,884,735	$ 290,761	$ (1,275,516)	$ 907	$ 900,887
Net loss	**—**	**—**	**—**	**(114,233)**	**—**	**(114,233)**
Deferred share consideration related to acquisition (note 7)	**—**	**—**	**4,851**	**—**	**—**	**4,851**
Equity offerings (note 21)	**14,870,000**	**527,291**	**—**	**—**	**—**	**527,291**
DSUs redeemed (note 21)	**46,388**	**127**	**(1,417)**	**—**	**—**	**(1,290)**
RSUs redeemed (note 21)	**156,449**	**577**	**(4,934)**	**—**	**—**	**(4,357)**
Options exercised (note 21)	**549,281**	**3,526**	**(1,111)**	**—**	**—**	**2,415**
Share-based compensation (note 21)	**—**	**—**	**9,669**	**—**	**—**	**9,669**
Other comprehensive income (loss):						
Defined benefit plan actuarial gain (loss)	**—**	**—**	**—**	**2,170**	**—**	**2,170**
Foreign currency translation for foreign operations	**—**	**—**	**—**	**—**	**814**	**814**
Balance, December 31, 2021	**297,700,295**	**$ 2,416,256**	**$ 297,819**	**$ (1,387,579)**	**$ 1,721**	**$ 1,328,217**

See accompanying notes to consolidated financial statements.

BALLARD POWER SYSTEMS INC.
Consolidated Statements of Cash Flows
For the years ended December 31

(Expressed in thousands of U.S. dollars)

	Note	2021	2020
Cash provided by (used in):			
Operating activities:			
Net loss for the year		**$ (114,233)**	$ (51,377)
Adjustments for:			
Depreciation and amortization		**9,752**	7,558
Impairment loss on trade receivables	25	**54**	310
Unrealized gain on forward contracts		**519**	(259)
Equity in loss of investment in joint venture and associates	14 & 28	**16,140**	12,557
Net decrease (increase) in fair value of investments	14 & 31	**9,024**	—
Gain on sale of assets	8	**—**	(168)
Impairment loss on property plant and equipment	11	**263**	—
Accretion on decommissioning liabilities		**113**	76
Employee future benefits	20	**131**	164
Employee future benefits plan contributions	20	**(8)**	(908)
Share-based compensation	21	**9,669**	6,237
Deferred income tax expense (recovery)		**(300)**	—
		(68,876)	(25,810)
Changes in non-cash working capital:			
Trade and other receivables		**9,640**	(2,093)
Inventories		**(22,996)**	1,355
Prepaid expenses and other current assets		**(810)**	(1,026)
Trade and other payables		**1,408**	(4,238)
Deferred revenue		**2,221**	(10,268)
Warranty provision		**(1,063)**	(854)
		(11,600)	(17,124)
Cash used in operating activities		**(80,476)**	(42,934)
Investing activities:			
Net change in short-term investments	31	**336**	(2,000)
Acquisition of long-term investments	14 & 31	**(51,757)**	—
Additions to property, plant and equipment	11	**(13,158)**	(12,620)
Proceeds on sale of assets	8	**—**	988
Investment in other intangible assets	12	**(1,543)**	(246)
Investment in joint venture and associates	14	**(12,351)**	(22,515)
Acquisition of Arcola Energy Limited, net of cash acquired	7	**(7,157)**	—
Cash used in investing activities		**(85,630)**	(36,393)
Financing activities:			
Principal payments of lease liabilities	19	**(2,798)**	(2,517)
Net proceeds on issuance of share capital from share option exercises	21	**2,415**	4,438
Net proceeds on issuance of share capital from equity offerings	21	**527,291**	694,608
Cash provided by financing activities		**526,908**	696,529
Effect of exchange rate fluctuations on cash and cash equivalents held		**(337)**	(1,564)
Increase in cash and cash equivalents		**360,465**	615,638
Cash and cash equivalents, beginning of year		**763,430**	147,792
Cash and cash equivalents, end of year		**$ 1,123,895**	$ 763,430

Supplemental disclosure of cash flow information (note 29).
See accompanying notes to consolidated financial statements.

1. Reporting entity:

The principal business of Ballard Power Systems Inc. (the “Corporation”) is the sale and service of proton exchange membrane ("PEM") fuel cell products for the power product markets of Heavy-Duty Motive (consisting of bus, truck, rail and marine applications), Material Handling and Backup Power, as well as the delivery of Technology Solutions, including engineering services, technology transfer and the licensing and sale of the Corporation’s extensive intellectual property portfolio and fundamental knowledge for a variety of fuel cell applications. A fuel cell is an environmentally clean electrochemical device that combines hydrogen fuel with oxygen (from the air) to produce electricity.

The Corporation is a company domiciled in Canada and its registered office is located at 9000 Glenlyon Parkway, Burnaby, British Columbia, Canada, V5J 5J8. The consolidated financial statements of the Corporation as at and for the years ended December 31, 2021 and 2020 comprise the Corporation and its subsidiaries (note 4(a)).

On October 14, 2020, the Corporation completed the sale of the Unmanned Aerial Vehicle ("UAV") business assets of its subsidiary, Ballard Unmanned Systems. As such, the UAV business has been classified and accounted for as a discontinued operation. The historic operating results of the UAV business for 2021 and 2020 have been removed from continued operating results and are instead presented separately in the statement of comprehensive loss as loss from discontinued operations.

2. Basis of preparation:

(a) Statement of compliance:

These consolidated financial statements of the Corporation have been prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”).

The consolidated financial statements were authorized for issue by the Board of Directors on March 11, 2022.

Details of the Corporation's significant accounting policies are included in note 4.

(b) Basis of measurement:

The consolidated financial statements have been prepared on the historical cost basis except for the following material items in the statement of financial position:

- Financial assets classified as measured at fair value through profit or loss (FVTPL); and
- Employee future benefits liability is recognized as the net of the present value of the defined benefit obligation, less the fair value of plan assets.

(c) Functional and presentation currency:

These consolidated financial statements are presented in U.S. dollars, which is the Corporation’s functional currency.

2. Basis of preparation (cont'd):

(d) Use of estimates:

The preparation of the consolidated financial statements in conformity with IFRS requires the Corporation's management to make estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

Significant areas having estimation uncertainty include revenue recognition, asset impairment, warranty provision, inventory provision, impairment loss (recoveries) on trade receivables and employee future benefits. These estimates and judgments are discussed further in note 5.

(e) Future operations:

The Corporation is required to assess its ability to continue as a going concern or whether substantial doubt exists as to the Corporation's ability to continue as a going concern into the foreseeable future. The Corporation has forecast its cash flows for the foreseeable future and despite the ongoing volatility and uncertainties inherent in the business, the Corporation believes it has adequate liquidity in cash and working capital to finance its operations. The Corporation's ability to continue as a going concern and realize its assets and discharge its liabilities and commitments in the normal course of business is dependent upon the Corporation having adequate liquidity and achieving profitable operations that are sustainable.

The Corporation's strategy to mitigate this uncertainty is to continue its drive to attain profitable operations that are sustainable by executing a business plan that continues to focus on revenue growth, improving overall gross margins, maintaining discipline over operating expenses, managing working capital requirements, and securing additional financing to fund operations as needed until the Corporation does achieve profitable operations that are sustainable. Failure to implement this plan could have a material adverse effect on the Corporation's financial condition and or results of operations.

3. Changes in accounting policies:

The Corporation has consistently applied the accounting policies set out in note 4 to all periods presented in these consolidated financial statements.

A number of new standards and interpretations became effective from January 1, 2021 however, they did not have a material impact on the Corporation's consolidated financial statements.

4. Significant accounting policies:

The accounting policies set out below have been applied consistently to all periods presented in these consolidated financial statements, unless otherwise indicated.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

4. Significant accounting policies (cont'd):

(a) Basis of consolidation:

The consolidated financial statements include the accounts of the Corporation and its principal subsidiaries as follows:

	Percentage ownership	
	2021	2020
Ballard Motive Solutions (Note 7)	100 %	— %
Guangzhou Ballard Power Systems Co., Ltd.	100 %	100 %
Ballard Power Systems Europe A/S	100 %	100 %
Ballard Hong Kong Ltd.	100 %	100 %
Ballard Unmanned Systems (note 8)	100 %	100 %
Ballard Services Inc.	100 %	100 %
Ballard Fuel Cell Systems Inc.	100 %	100 %
Ballard Power Corporation	100 %	100 %

Subsidiary Entities

Subsidiaries are entities controlled by the Corporation. The Corporation controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns though its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases. Intercompany balances and transactions are eliminated in the consolidated financial statements.

(i) Ballard Motive Solutions

On November 11, 2021, the Corporation acquired Arcola Energy Limited ("Arcola"), a UK-based systems engineering company (subsequently renamed to Ballard Motive Solutions) specializing in hydrogen fuel cell powertrain and vehicle systems integration (note 7).

(ii) Guangzhou Ballard Power Systems

On January 10, 2017, the Corporation incorporated Guangzhou Ballard Power Systems Co., Ltd. ("GBPS"), a 100% wholly foreign-owned enterprise ("WFOE") in China to serve as the Corporation's operations entity for all of China.

(iii) Ballard Power Systems Europe A/S

On January 18, 2010, the Corporation acquired a 45% interest in its European subsidiary, Ballard Power Systems Europe A/S ("BPSE"). BPSE (formerly Dantherm Power A/S) has been consolidated since acquisition. In August 2010, the Corporation acquired an additional 7% interest and a further 5% interest in December 2012. On January 5, 2017, the Corporation purchased the remaining 43% interest in its subsidiary, held by Dansk Industri Invest A/S, thus resulting in the Corporation now owning 100% of BPSE. BPSE supports a growing market and customer base with sales, business development, engineering, manufacturing and service capabilities.

(iv) Ballard Hong Kong Ltd.

On July 19, 2016, the Corporation incorporated Ballard Hong Kong Ltd. (“BHKL”), a 100% owned holding company in Hong Kong, China.

4. Significant accounting policies (cont'd):

(a) Basis of consolidation (cont'd):

(v) Ballard Unmanned Systems

On October 1, 2015, the Corporation acquired Ballard Unmanned Systems (formerly Protonex Technology Corporation) prior to January 1, 2019), a designer and manufacturer of advanced power management products and portable fuel cell solutions.

On October 14, 2020, the Corporation completed an agreement to sell the remaining business assets of its subsidiary, Ballard Unmanned Systems. The entity will remain held by the Corporation (note 8).

Equity Investment Entities

The Corporation also has a non-controlling, 49% interest (2020 - 49%), in Weichai Ballard Hy-Energy Technologies Co., Ltd ("Weichai Ballard JV") and a non-controlling, 10% interest (2020 - 10%), in Guangdong Synergy Ballard Hydrogen Power Co., Ltd (“Synergy Ballard JVCo”). Both of these associated companies are accounted for using the equity method of accounting.

(i) Weichai Ballard JV

On November 13, 2018, the Corporation, through Ballard Hong Kong Ltd. ("BHKL"), entered into an agreement with Weichai Power Co., Ltd ("Weichai Power") to create a new limited liability company based in China, Weichai Ballard JV. The JV's business is to manufacture fuel cell products utilizing the Corporation's next-generation liquid-cooled fuel cell stack ("LCS") and LCS-based power modules for bus, commercial truck and forklift applications with certain exclusive rights in China. Under the agreement, Weichai is to contribute RMB 561,000,000 ($88,301,000 equivalent at December 31, 2021 exchange rate) and the Corporation is to contribute RMB 539,000,000 ($79,930,000 equivalent at December 31, 2021 exchange rate) representing 51% and 49% of the registered capital in Weichai Ballard JV, respectively. The parties will make these contributions in cash over a four year period and are not obligated to contribute any additional capital in excess of the amounts noted above.

During 2018, the Corporation made an initial capital contribution of $14,286,000 (RMB 98,000,000 equivalent). During 2019, the Corporation made two additional capital contributions totaling $20,944,000 (RMB 143,325,000 equivalent). During 2020, the Corporation made four additional capital contributions totaling $22,515,000 (RMB 155,575,000 equivalent). During 2021, the Corporation made four additional capital contributions totaling $12,351,000 (RMB 79,625,000 equivalent). Weichai Power and the Corporation are committed to fund pro rata shares of Weichai Ballard JV based on an agreed business plan. Weichai Power holds three of five Weichai Ballard JV board seats and the Corporation holds two, with the Corporation having certain shareholder protection provisions. Weichai Ballard JV is not controlled by the Corporation and therefore is not consolidated. The Corporation's 49% investment in Weichai Ballard JV is accounted for using the equity method of accounting.

(ii) Synergy Ballard JVCo

On September 26, 2016, the Corporation, through BHKL, entered into a joint venture agreement with Guangdong Nation Synergy Hydrogen Power Technology Co., Ltd (“Synergy”) to create a new limited liability company based in China, Synergy Ballard JVCo. Synergy Ballard JVCo's business is to manufacture fuel cell products utilizing the Corporation's FCvelocity®-9SSL fuel cell stack technology for use primarily in fuel cell engines assembled in China to provide propulsion power for zero-emission fuel cell electric buses and commercial vehicles with certain exclusive rights in China.

4. Significant accounting policies (cont'd):

(a) Basis of consolidation (cont'd):

Equity Investment Entities (cont'd)

(ii) Synergy Ballard JVCo (cont'd)

In setting up the joint venture, as specified in the Equity Joint Venture Agreement ("EJV") dated September 26, 2016, Synergy contributed RMB 60,300,000 ($9,000,000) and the Corporation contributed RMB 6,700,000, ($971,000) in March 2017 representing 90% and 10% of the registered capital in Synergy Ballard JVCo, respectively. The parties made their contributions in cash and the Corporation is not obligated to contribute any additional capital in excess of the amounts noted above. Synergy Ballard JVCo is not controlled by the Corporation and therefore is not consolidated. The Corporation's 10% investment in Synergy Ballard JVCo is accounted for using the equity method of accounting.

(b) Foreign currency:

(i) Foreign currency transactions

Transactions in foreign currencies are translated to the respective functional currencies of the Corporation and its subsidiaries at the exchange rate in effect at the transaction date. Monetary assets and liabilities denominated in other than the functional currency are translated at the exchange rates in effect at the statement of financial position date. The resulting exchange gains and losses are recognized in earnings. Non-monetary assets and liabilities denominated in other than the functional currency that are measured at fair value are translated to the functional currency at the exchange rate at the date that the fair value was determined. Non-monetary items that are measured in terms of historical cost in other than the functional currency are translated using the exchange rate at the date of the transaction.

(ii) Foreign operations

The assets and liabilities of foreign operations are translated to the presentation currency using exchange rates at the reporting date. The income and expenses of foreign operations are translated to the presentation currency using exchange rates at the dates of the transactions. Foreign currency differences are recognized in other comprehensive income.

(c) Financial instruments:

(i) Financial assets

The Corporation initially recognizes loans and receivables and deposits on the date that they originated and all other financial assets on the trade date at which the Corporation becomes a party to the contractual provisions of the instrument. The Corporation derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or when it transfers substantially all the risks and rewards of ownership of the financial asset.

Financial assets are classified as measured at: amortized cost; fair value through other comprehensive income ("FVOCI") or fair value through profit or loss ("FVTPL"). The classification of financial assets is generally based on the business model in which a financial asset is managed and its contractual cash flow characteristics. Derivatives embedded in contracts where the host is a financial asset in the scope of the standard are never separated. Instead, the hybrid financial instrument as a whole is assessed for classification. The Corporation's financial assets which consist primarily of cash and cash equivalents, short-term investments, trade and other receivables, and contract assets are classified at amortized cost.

The Corporation also periodically enters into foreign exchange forward contracts to limit its exposure to foreign currency rate fluctuations. These derivatives are recognized initially at fair value and are recorded as either assets or liabilities based on their fair value. Subsequent to initial recognition, these derivatives are measured at fair value and changes to their value are recorded through profit or loss.

4. Significant accounting policies (cont'd):

(c) Financial instruments (cont'd):

(ii) Financial liabilities

Financial liabilities comprise the Corporation’s trade and other payables. The financial liabilities are initially recognized on the date they are originated and are derecognized when the contractual obligations are discharged or cancelled or expire. These financial liabilities are recognized initially at fair value and subsequently are measured at amortized cost using the effective interest method, when materially different from the initial amount. Fair value is determined based on the present value of future cash flows, discounted at the market rate of interest.

(iii) Share capital

Share capital is classified as equity. Incremental costs directly attributable to the issue of shares and share options are recognized as a deduction from equity. When share capital is repurchased, the amount of the consideration paid, including directly attributable costs, is recognized as a deduction from equity. Repurchased shares are classified as treasury shares and are presented as a deduction from equity. When treasury shares are subsequently reissued, the amount received is recognized as an increase in equity, and the resulting surplus or deficit on the transaction is transferred to or from retained earnings (deficit).

(d) Inventories:

Inventories are recorded at the lower of cost and net realizable value. The cost of inventories is based on the first-in first-out principle, and includes expenditures incurred in acquiring the inventories, production or conversion costs and other costs incurred in bringing them to their existing location and condition. In the case of manufactured inventories and work in progress, cost includes materials, labor and appropriate share of production overhead based on normal operating capacity. Costs of materials are determined on an average per unit basis.

Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses. In establishing any impairment of inventory, management estimates the likelihood that inventory carrying values will be affected by changes in market demand, technology and design, which would impair the value of inventory on hand.

(e) Property, plant and equipment:

(i) Recognition and measurement

Items of property, plant and equipment are measured at cost less accumulated depreciation and any accumulated impairment losses. The cost of self-constructed assets includes the cost of materials, costs directly attributable to bringing the assets to a working condition for their intended use, and the costs of dismantling and removing items and restoring the site on which they are located. If significant parts of an item of property, plant and equipment have different useful lives, then they are accounted for as separate items (major components) of property, plant and equipment.

Any gain or loss on disposal of an item of property, plant and equipment is recognized in profit or loss.

(ii) Subsequent expenditures

Subsequent expenditures are capitalized only if it is probable that the future economic benefits associated with the expenditures will flow to the Corporation.

(iii) Depreciation

Depreciation is calculated to write-off the cost of items of property, plant and equipment less their estimated residual values using the straight-line method over their estimated useful lives, and is recognized in profit or loss.

4. Significant accounting policies (cont'd):

(e) Property, plant and equipment (cont'd):

(iii) Depreciation (cont'd)

The estimated useful lives of property, plant and equipment for current and comparative periods are as follows:

Computer equipment	3 to 10 years
Furniture and fixtures	5 to 10 years
Leasehold improvements	The shorter of initial term of the respective lease and estimated useful life
Production and test equipment	4 to 15 years

Leased assets are depreciated over the shorter of the lease term or their useful lives unless it is reasonably certain that the Corporation will obtain ownership by the end of the lease term.

Right-of-use asset - Property	1 to 7 years
Right-of-use asset - Office equipment	4 to 5 years
Right-of-use asset - Vehicles	1 to 5 years

Depreciation methods, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate.

(f) Leases:

IFRS 16 Leases introduced a single, on-balance sheet accounting model for lessees. As a result, the Corporation, as a lessee, has recognized right-of-use assets representing its rights to use the underlying assets, and lease liabilities representing its obligation to make lease payments. Lessor accounting remains similar to previous accounting policies.

At inception of a contract, the Corporation assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, the Corporation assesses whether:

- the contract involves the use of an identified asset - this may be specified explicitly or implicitly, and should be physically distinct or represent substantially all of the capacity of a physically distinct asset. If the supplier has a substantive substitution right, then the asset is not identified;

- the Corporation has the right to obtain substantially all of the economic benefits from use of the asset throughout the period of use; and

- the Corporation has the right to direct the use of the asset. The Corporation has this right when it has the decision-making rights that are most relevant to changing how and for what purpose the asset is used. In rare cases where all the decisions about how and for what purpose the asset is used are predetermined, the Corporation has the right to direct the use of the asset if either:

    - the Corporation has the right to operate the asset; or
    - the Corporation designed the asset in a way that predetermines how and for what purpose it will be used.

4. Significant accounting policies (cont'd):

(f) Leases (cont'd):

This policy is applied to contracts entered into, or changed, on or after January 1, 2019.

i. As a Lessee

The Corporation recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term. The estimated useful lives of right-of-use assets are determined on the same basis as those of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Corporation’s incremental borrowing rate. Generally, the Corporation uses its incremental borrowing rate as the discount rate.

Lease payments included in the measurement of the lease liability comprise:

- Fixed payments, including in-substance fixed payments;
- Variable lease payments that depend on an index or a rate, initially measured using the index or rate at the commencement date;
- Amounts expected to be payable under a residual value guarantee; and
- The exercise price under a purchase option that the Corporation is reasonably certain to exercise, lease payments in an optional renewal period if the Corporation is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Corporation is reasonably certain not to terminate early.

The lease liability is subsequently measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Corporation’s estimate of the amount expected to be payable under a residual value guarantee or if the Corporation changes its assessment of whether it will exercise a purchase, extension or termination option. When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

The Corporation presents right-of-use assets in ‘Property, plant and equipment’ and lease liabilities in ‘Lease liability’ in the statement of financial position.

The Corporation has elected not to recognize right-of-use assets and lease liabilities for short-term leases of properties, equipment and vehicles that have a lease term of 12 months or less. The Corporation has elected not to recognize right-of-use assets and lease liabilities for low value leases that have initial values of less than $5,000. The Corporation recognizes the lease payments associated with these leases as an operating expense on a straight-line basis over the lease term.

4. Significant accounting policies (cont'd):

(f) Leases (cont'd):

ii. As a Lessor

When the Corporation is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset, and makes an overall assessment of whether the lease transfers to the lessee substantially all of the risks and rewards of ownership incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then it is an operating lease. As part of this assessment, the Corporation considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

(g) Goodwill and intangible assets:

(i) Recognition and measurement

Goodwill	Goodwill arising on the acquisition of subsidiaries is measured at cost less accumulated impairment losses.
Research and development	Expenditure on research activities is recognized in profit or loss as incurred. Development expenditure is capitalized only if the expenditure can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable and the Corporation intends to and has sufficient resources to complete development and to use or sell the asset. Otherwise, it is recognized in profit or loss as incurred. Subsequent to initial recognition, development expenditure is measured at cost less accumulated amortization and any accumulated impairment losses.
Intangible assets	Intangible assets, including patents, know-how, in-process research and development, trademarks and service marks, customer contracts and relationships, non-compete agreements, and software systems that are acquired or developed by the Corporation and have finite useful lives are measured at cost less accumulated amortization and any accumulated impairment losses.

(ii) Subsequent expenditure

Subsequent expenditure is capitalized only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditures, including expenditures on internally generated goodwill, are recognized in profit or loss as incurred.

(iii) Amortization

Amortization is calculated to write-off the cost of intangible assets less their estimated residual values using the straight-line method over their estimated useful lives, and is recognized in profit or loss. Goodwill is not amortized.

The estimated useful lives for current and comparative periods are as follows:

Acquired patents, know-how and in-process research & development	5 to 20 years
ERP management reporting software system	5 to 10 years
Acquired customer contracts and relationships	7 to 10 years
Acquired non-compete agreements	1 to 3 years
Domain names	15 years
Acquired trademarks and service marks	15 years
Internally generated fuel cell intangible assets	3 to 5 years

Amortization methods, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate.

4. Significant accounting policies (cont'd):

(h) Impairment:

(i) Financial assets

An ‘expected credit loss’ ("ECL") model applies to financial assets measured at amortized cost and debt investments at FVOCI, but not to investments in equity instruments. The Corporation's financial assets measured at amortized cost and subject to the ECL model consist primarily of trade receivables and contract assets.

In applying the ECL model, loss allowances are measured on either of the following bases:

- 12-month ECLs: these are ECLs that result from possible default events within the 12 months after the reporting date; and
- lifetime ECLs: these are ECLs that result from all possible default events over the expected life of a financial instrument.

The Corporation has elected to measure loss allowances for trade receivables and contract assets at an amount equal to lifetime ECLs.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Corporation considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on historical experience and informed credit assessment and including forward-looking information.

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Corporation expects to receive). ECLs are discounted at the effective interest rate of the financial asset. At each reporting date, we assess whether financial assets carried at amortized cost are credit-impaired. A financial asset is ‘credit-impaired’ when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred. Loss allowances for financial assets measured at amortized cost are deducted from the gross carrying amount of the assets. Impairment (losses) recoveries related to trade receivables and contract assets are presented separately in the statement of profit or loss.

(ii) Non-financial assets

The carrying amounts of the Corporation’s non-financial assets other than inventories are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset’s recoverable amount is estimated. For goodwill and intangible assets that have indefinite useful lives, the recoverable amount is estimated annually.

The recoverable amount of an asset or cash-generating unit 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. Fair value less costs to sell is defined as the estimated price that would be received on the sale of the asset in an orderly transaction between market participants at the measurement date. For the purposes of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other groups of assets.

The allocation of goodwill to cash-generating units reflects the lowest level at which goodwill is monitored for internal reporting purposes.

4. Significant accounting policies (cont'd):

(h) Impairment (cont'd):

(ii) Non-financial assets (cont'd)

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

An impairment loss in respect of goodwill is not reversed. In respect of other assets, impairment losses recognized in prior periods are assessed at each reporting date for any indications that the loss has decreased or no longer exists. 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 or amortization, if no impairment loss had been recognized.

(i) Provisions:

A provision is recognized if, as a result of a past event, the Corporation has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risk specific to the liability. The unwinding of the discount is recognized as a finance expense.

Warranty provision

A provision for warranty costs is recorded on product sales at the time the sale is recognized. In establishing the warranty provision, management estimates the likelihood that products sold will experience warranty claims and the estimated cost to resolve claims received, taking into account the nature of the contract and past and projected experience with the products.

Decommissioning liabilities

Legal obligations to retire tangible long-lived assets are recorded at the net present value of the expected costs of settlement at acquisition with a corresponding increase in asset value. These include assets leased under operating leases. The liability is accreted over the life of the asset to the ultimate settlement amount and the increase in asset value is depreciated over the remaining useful life of the asset.

(j) Revenue recognition:

The Corporation generates revenues primarily from product sales, the license and sale of intellectual property and fundamental knowledge, and the provision of engineering services and technology transfer services. Product revenues are derived primarily from standard product sales contracts and from long-term fixed price contracts. Intellectual property and fundamental knowledge license revenues are derived primarily from standard licensing and technology transfer agreements. Engineering service and technology transfer services revenues are derived primarily from cost-plus reimbursable contracts and from long-term fixed price contracts.

Revenue is recognized when a customer obtains control of the goods or services. Determining the timing of the transfer of control, at a point in time or over time, requires judgment. On standard product sales contracts, revenues are recognized when customers obtain control of the product, that is when transfer of title and risks and rewards of ownership of goods have passed and when obligation to pay is considered certain. Invoices are generated and revenue is recognized at that point in time. Provisions for warranties are made at the time of sale.

4. Significant accounting policies (cont'd):

(j) Revenue recognition (cont'd):

On standard licensing and technology transfer agreements, revenues are recognized on the transfer of rights to a licensee, when it is determined to be distinct from other performance obligations, and if the customer can direct the use of, and obtain substantially all of the remaining benefits from the license as it exists at the time of transfer. In other cases, the proceeds are considered to relate to the right to use the asset over the license period and the revenue is recognized over that period. If it is determined that the license is not distinct from other performance obligations, revenue is recognized over time as the customer simultaneously receives and consumes the benefit.

On cost-plus reimbursable contracts, revenues are recognized as costs are incurred, and include applicable fees earned as services are provided.

On long-term fixed price contracts, the customer controls all of the work in progress as the services are being provided. This is because under these contracts, the deliverables are made to a customer's specification, and if a contract is terminated by the customer, then the Corporation is entitled to reimbursement of the costs incurred to date plus the applicable gross margin. Therefore, revenue from these contracts and the associated costs are recognized as the costs are incurred over time.

On long-term fixed price contracts, revenues are recognized over time using cumulative costs incurred to date relative to total estimated costs at completion to measure progress towards satisfying performance obligations. Generally, revenue is recognized by multiplying the expected consideration by the ratio of cumulative costs incurred to date to the sum of incurred and estimated costs for completing the performance obligation. The cumulative effect of changes to estimated revenues and estimated costs for completing a contract are recognized in the period in which the revisions are identified. In the event that the estimated costs for completing the contract exceed the expected revenues on a contract, such loss is recognized in its entirety in the period it becomes known.

Deferred revenue (i.e. contract liabilities) represents cash received from customers in excess of revenue recognized on uncompleted contracts.

(k) Finance income and expense:

Finance income comprises interest income on funds invested, gains (losses) on the disposal of available-for-sale financial assets, foreign exchange gains (losses), and changes in the fair value of financial assets at fair value through profit or loss, pension administration expense, and employee future benefit plan expense. Interest income is recognized as it accrues in income, using the effective interest method.

Finance expense comprises interest expense on leases and the unwinding of the discount on provisions.

(l) Income taxes:

The Corporation follows the asset and liability method of accounting for income taxes. Under this method, deferred income taxes are recognized for the deferred income tax consequences attributable to differences between the financial statement carrying values of assets and liabilities and their respective income tax bases (temporary differences) and for loss carry forwards. The resulting changes in the net deferred tax asset or liability are included in income.

Deferred tax assets and liabilities are measured using enacted, or substantively enacted, tax rates expected to apply to taxable income in the years in which temporary differences are expected to be recovered or settled. The effect on deferred income tax assets and liabilities, of a change in tax rates, is included in income in the period that includes the substantive enactment date. Deferred income tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized.

4. Significant accounting policies (cont'd):

(m) Employee benefits:

Defined contribution plans

A defined contribution plan is a post-employment benefit plan under which an entity pays fixed contributions into a separate entity and will have no legal or constructive obligation to pay further amounts.

Obligations for contributions to defined contribution pension plans are recognized as an employee benefit expense in profit or loss in the periods during which services are rendered by employees. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in future payments is available. Contributions to a defined contribution plan that are due more than 12 months after the end of the period in which the employees render the service are discounted to their present value.

Defined benefit plans

A defined benefit plan is a post-employment pension plan other than a defined contribution plan. The Corporation’s net obligation in respect of defined benefit pension plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value. Any unrecognized past service costs and the fair value of any plan assets are deducted. The discount rate is the yield at the reporting date on AA credit-rated bonds that have maturity dates approximating the terms of the Corporation’s obligations and that are denominated in the same currency in which the benefits are expected to be paid. The calculation is performed annually by a qualified actuary using the projected unit credit method.

When the calculation results in a benefit to the Corporation, the recognized asset is limited to the total of any unrecognized past service costs and the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan. In order to calculate the present value of economic benefits, consideration is given to any minimum funding requirements that apply to any plan in the Corporation. An economic benefit is available to the Corporation if it is realizable during the life of the plan, or on settlement of the plan liabilities.

The Corporation recognizes all remeasurements arising from defined benefit plans, which comprise actuarial gains and losses, immediately in other comprehensive income. Remeasurements recognized in other comprehensive income are not recycled through profit or loss in subsequent periods.

Other long-term employee benefits

The Corporation’s net obligation in respect of long-term employee benefits other than pension plans is the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value, and the fair value of any related assets is deducted. The discount rate is the yield at the reporting date on AA credit-rated bonds that have maturity dates approximating the terms of the Corporation’s obligations. The calculation is performed using the projected unit credit method. Any actuarial gains and losses are recognized in other comprehensive income or loss in the period in which they arise.

Termination benefits

Termination benefits are recognized as an expense (restructuring expense recorded in other operating expense) when the Corporation is committed demonstrably, without realistic possibility of withdrawal, to a formal detailed plan to either terminate employment before the normal retirement date, or to provide termination benefits as a result of an offer made to encourage voluntary redundancy. Termination benefits for voluntary redundancies are recognized as an expense if the Corporation has made an offer of voluntary redundancy, it is probable that the offer will be accepted, and the number of acceptances can be estimated reliably. If benefits are payable more than 12 months after the reporting period, then they are discounted to their present value.

4. Significant accounting policies (cont'd):

(m) Employee benefits:

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 short-term cash bonus or profit sharing plans if the Corporation 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.

(n) Share-based compensation plans:

The Corporation uses the fair-value based method of accounting for share-based compensation for all awards of shares, share options, restricted share units, and deferred share units granted. The resulting compensation expense, based on the fair value of the awards granted, excluding the impact of any non-market service and performance vesting conditions, is charged to income over the period that the employees unconditionally become entitled to the award, with a corresponding increase to contributed surplus.

Fair values of share options are calculated using the Black-Scholes valuation method as of the grant date and adjusted for estimated forfeitures. Restricted share units and deferred share units are valued at the fair-value price at grant date. For awards with graded vesting, the fair value of each tranche is calculated separately and recognized over its respective vesting period. Non-market vesting conditions are considered in making assumptions about the number of awards that are expected to vest. At each reporting date, the Corporation reassesses its estimates of the number of awards that are expected to vest and recognizes the impact of any revision in the income statement with a corresponding adjustment to contributed surplus.

The Corporation issues shares, share options, restricted share units, and deferred share units under its share-based compensation plans as described in note 21. Any consideration paid by employees on exercise of share options or purchase of shares, together with the amount initially recorded in contributed surplus, is credited to share capital. The redemption of restricted share units and deferred share units are non-cash transactions that are recorded in contributed surplus and share capital.

(o) Earnings (loss) per share:

Basic earnings (loss) per share is computed using the weighted average number of common shares outstanding during the period, adjusted for treasury shares. Diluted earnings per share is calculated using the treasury stock method.

Under the treasury stock method, the dilution is calculated based upon the number of common shares issued should deferred share units (“DSUs”), restricted share units (“RSUs”), and “in the money” options, if any, be exercised. When the effects of outstanding stock-based compensation arrangements would be anti-dilutive, diluted loss per share is not shown separately.

(p) Government assistance and investment tax credits:

Government assistance and investment tax credits are recorded as either a reduction of the cost of the applicable assets, or credited against the related expense incurred in the statement of comprehensive loss, as determined by the terms and conditions of the agreements under which the assistance is provided to the Corporation or the nature of the expenditures which gave rise to the credits. Government assistance and investment tax credit receivables are recorded when their receipt is reasonably assured.

4. Significant accounting policies (cont'd):

(q) Segment reporting:

An operating segment is a component of the Corporation that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the Corporation's other components. Segment results include items directly attributable to a segment as well as those that can be allocated on a reasonable basis. Unallocated items comprise mainly corporate assets, head office expenses, and income tax assets and liabilities.

5. Critical judgments in applying accounting policies and key sources of estimation uncertainty:

Critical judgments in applying accounting policies:

Critical judgments that management has made in the process of applying the Corporation's accounting policies and that have the most significant effect on the amounts recognized in the consolidated financial statements are limited to management's assessment of the Corporation's ability to continue as a going concern (note 2(e)).

Key sources of estimation uncertainty:

The following are key assumptions concerning the future and other key sources of estimation uncertainty that have significant risk of resulting in a material adjustment to the reported amount of assets, liabilities, income and expenses within the next financial year.

(a) Revenue recognition:

On long-term fixed price contracts, revenues are recorded over time using costs incurred to date relative to total estimated costs at completion to measure progress towards satisfying performance obligations. Revenue is recognized by multiplying the expected consideration by the ratio of cumulative costs incurred to date to the sum of incurred and estimated costs for completing the performance obligation. The cumulative effect of changes to expected revenues and expected costs for completing a contract are recognized in the period in which the revisions are identified. If the expected costs exceed the expected revenues on a contract, such loss is recognized in its entirety in the period it becomes known.

(i) The determination of expected costs for completing a contract is based on estimates that can be affected by a variety of factors such as variances in the timeline to completion, the cost of materials, the availability and cost of labour, as well as productivity.

(ii) The determination of potential revenues includes the contractually agreed amount and may be adjusted based on the estimate of the Corporation's attainment on achieving certain defined contractual milestones. Management's estimation is required in determining the amount of consideration to which the Corporation expects to be entitled and in determining when a performance obligation has been met.

Estimates used to determine revenues and costs of long-term fixed price contracts involve uncertainties that ultimately depend on the outcome of future events and are periodically revised as projects progress. There is a risk that a customer may ultimately disagree with management's assessment of the progress achieved against milestones, or that the Corporation's estimates of the work required to complete a contract may change.

5. Critical judgments in applying accounting policies and key sources of estimation uncertainty (cont'd):

Key sources of estimation uncertainty (cont'd):

(b) Asset impairment:

The recoverable amount of an asset or cash-generating unit 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. In assessing fair value less costs to sell, the price that would be received on the sale of an asset in an orderly transaction between market participants at the measurement date is estimated. For the purposes of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other groups of assets. The allocation of goodwill to cash-generating units reflects the lowest level at which goodwill is monitored for internal reporting purposes. Many of the factors used in assessing fair value are outside the control of management and it is reasonably likely that assumptions and estimates will change from period to period.

These changes may result in future impairments. For example, the revenue growth rate could be lower than projected due to economic, industry or competitive factors, or the discount rate used in the value in use model could increase due to a change in market interest rates. In addition, future goodwill impairment charges may be necessary if the market capitalization decreased due to a decline in the trading price of the Corporation’s common stock, which could negatively impact the fair value of the Corporation’s cash generating units.

(c) Warranty provision:

A provision for warranty costs is recorded on product sales at the time of shipment. In establishing the warranty provision, management estimates the likelihood that products sold will experience warranty claims and the cost to resolve claims received. In making such determinations, the Corporation uses estimates based on the nature of the contract and past and projected experience with the products. Should these estimates prove to be incorrect, the Corporation may incur costs different from those provided for in the warranty provision. Management reviews warranty assumptions and makes adjustments to the provision at each reporting date based on the latest information available, including the expiry of contractual obligations. Adjustments to the warranty provision are recorded in cost of product and service revenues.

(d) Inventory provision:

In determining the lower of cost and net realizable value of inventory and in establishing the appropriate provision for inventory obsolescence, management estimates the likelihood that inventory carrying values will be affected by changes in market pricing or demand for the products and by changes in technology or design which could make inventory on hand obsolete or recoverable at less than the recorded value. Management performs regular reviews to assess the impact of changes in technology and design, sales trends and other changes on the carrying value of inventory. Where it is determined that such changes have occurred and will have a negative impact on the value of inventory on hand, appropriate provision are made.

If there is a subsequent increase in the value of inventory on hand, reversals of previous write-downs to net realizable value are made. Unforeseen changes in these factors could result in additional inventory provisions, or reversals of previous provisions, being required.

(e) Financial assets including impairment of trade receivables:

An ECL model applies to financial assets measured at amortized cost, contract assets and debt investments at FVOCI, but not to investments in equity instruments. The Corporation's financial assets that are measured at amortized cost and subject to the ECL model consist primarily of trade receivables and contract assets.

5. Critical judgments in applying accounting policies and key sources of estimation uncertainty (cont'd):

Key sources of estimation uncertainty (cont'd):

(e) Financial assets including impairment of trade receivables (cont'd):

In applying the ECL model, loss allowances are measured on either of the following bases:

- 12-month ECLs: these are ECLs that result from possible default events within the 12 months after the reporting date; and
- lifetime ECLs: these are ECLs that result from all possible default events over the expected life of a financial instrument.

The Corporation has elected to measure loss allowances for trade receivables and contract assets at an amount equal to lifetime ECLs.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Corporation considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Corporation's historical experience and informed credit assessment and including forward-looking information.

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Corporation expects to receive). ECLs are discounted at the effective interest rate of the financial asset. At each reporting date, the Corporation assesses whether financial assets carried at amortized cost are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred. Loss allowances for financial assets measured at amortized cost are deducted from the gross carrying amount of the assets. Impairment (losses) recoveries related to trade receivables and contract assets are presented separately in profit or loss.

(f) Employee future benefits:

The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that have terms to maturity approximating the terms of the related pension liability. Determination of benefit expense requires assumptions such as the discount rate to measure obligations, expected plan investment performance, expected healthcare cost trend rate, and retirement ages of employees. Actual results will differ from the recorded amounts based on these estimates and assumptions.

6. Recent accounting pronouncements and future accounting policy changes:

The following is an overview of accounting standard changes that the Corporation will be required to adopt in future years. The Corporation expects to adopt these standards as at their effective dates and will continue to evaluate the impact of these standards on the consolidated financial statements.

6. Recent accounting pronouncements and future accounting policy changes (cont'd):

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

On January 23, 2020, the IASB issued amendments to *IAS 1 Presentation of Financial Statements*, to clarify the classification of liabilities as current or non-current.

For the purposes of non-current classification, the amendments removed the requirement for a right to defer settlement or roll over of a liability for at least twelve months to be unconditional. Instead, such a right must have substance and exist at the end of the reporting period. The amendments also clarify how a company classifies a liability that includes a counterparty conversion option. The amendments state that:

- settlement of a liability includes transferring a company's own equity instruments to the counterparty, and
- when classifying liabilities as current or non-current a company can ignore only those conversion options that are recognized as equity.

The amendments are effective for annual periods beginning on or after January 1, 2023. Early adoption is permitted. The amendments are subject to further developments. Certain application issues resulting from the amendments have been raised with the IFRS Interpretations Committee, which referred them to the IASB. In November 2021, the IASB published the exposure draft Non-current Liabilities with Covenants (proposed amendments to IAS 1). The exposure draft aims to improve the information an entity provides when its right to defer settlement of a liability for at least twelve months is subject to compliance with conditions, in addition to addressing concerns about the classification of such a liability as current or non-current. The IASB proposed to defer the effective date of the 2020 amendments to no earlier than January 1, 2024. The extent of the impact of adoption of the *Amendments to IAS 1* has not yet been determined.

(b) Definition of Accounting Estimates (Amendments to IAS 8)

On February 12, 2021, the IASB issued *Definition of Accounting Estimates (Amendments to IAS 8).*

The amendments introduce a new definition for accounting estimates, clarifying that they are monetary amounts in the financial statements that are subject to measurement uncertainty. The amendments also clarify the relationship between accounting policies and accounting estimates by specifying that a company develops an accounting estimate to achieve the objective set out by an accounting policy.

The amendments are effective for annual periods beginning on or after January 1, 2023. Early adoption is permitted. The extent of the impact of adoption of the amendments to *IAS 8* has not yet been determined.

(c) *Disclosure Initiative – Accounting Policies* (*Amendments to IAS 1* and *IFRS Practice Statement 2*)

On February 12, 2021, the IASB issued *Disclosure Initiative – Accounting Policies (Amendments to IAS 1 and IFRS Practice Statement 2 Making Materiality Judgements).*

The amendments help companies provide useful accounting policy disclosures. The key amendments include:

- requiring companies to disclose their material accounting policies rather than their significant accounting policies;
- clarifying that accounting policies related to immaterial transactions, other events or conditions are themselves immaterial and as such need not be disclosed; and
- clarifying that not all accounting policies that relate to material transactions, other events or conditions are themselves material to a company's financial statements.

6. Recent accounting pronouncements and future accounting policy changes (cont'd):

(c) *Disclosure Initiative – Accounting Policies* (*Amendments to IAS 1* and *IFRS Practice Statement 2)* cont'd

The amendments are effective for annual periods beginning on or after January 1, 2023. Early adoption is permitted. The extent of the impact of adoption of the amendments to *IAS 1 and IFRS Practice Statement 2* has not yet been determined.

(d) *Onerous Contracts — Cost of Fulfilling a Contract* (*Amendments to IAS 37*)

On May 14, 2020, the IASB issued *Onerous Contracts – Cost of Fulfilling a Contract (Amendments to IAS 37).*

IAS 37 does not specify which costs are included as a cost of fulfilling a contract when determining whether a contract is onerous. The IASB's amendments address this issue by clarifying that the "costs of fulfilling a contract" comprise both:

- the incremental costs – e.g. direct labour and materials; and
- an allocation of other direct costs – e.g. an allocation of the depreciation charge for an item of PPE used in fulfilling the contract.

The amendments are effective for annual periods beginning on or after January 1, 2022 and apply to contracts existing at the date when the amendments are first applied. At the date of initial application of the amendments to *IAS 37*, the cumulative effect of applying the amendments is recognized as an opening balance adjustment to retained earnings or other component of equity, as appropriate. The comparatives are not restated.

Based on the analysis completed to date of the Corporation's "open" contracts as of December 31, 2021, on adoption of the amendments to *IAS 37* on January 1, 2022, the Corporation expects to recognize approximately $1,200,000 of additional contract costs as an opening balance adjustment to retained earnings in the three months ended March 31, 2022 financial statements (note 18).

7. Acquisition:

On November 11, 2021, the Corporation acquired Arcola Energy Limited ("Arcola"), a UK-based systems engineering company (subsequently renamed to Ballard Motive Solutions) specializing in hydrogen fuel cell powertrain and vehicle systems integration. The Corporation acquired 100% of Arcola for total consideration of up to $40,000,000, including 337,353 shares of the Corporation with an acquisition date fair value of approximately $6,000,000 (nil shares issued as of December 31, 2021) that vest over a two year period from the acquisition date, and up to $34,000,000 in upfront and earn-out cash consideration (net $7,157,000 paid as of December 31, 2021) based on the achievement of certain performance milestones over an up to three year period from the acquisition date.

The Corporation completed detailed valuation studies and prepared the preliminary purchase price allocation for Ballard Motive Solutions using the acquisition method of accounting in accordance with *IFRS 3 Business Combinations*, with the Corporation considered as the accounting acquirer and Arcola (Ballard Motive Solutions) as the accounting acquiree. As the accounting acquirer, consideration given by the Corporation to acquire Arcola (Ballard Motive Solutions) has been allocated to the assets acquired, and the liabilities assumed, based on their fair values as of the acquisition date of November 11, 2021.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

7. Acquisition (cont'd):

As consideration for the transaction: (i) the Corporation paid cash and assumed and paid certain of Arcola's (Ballard Motive Solutions) debt obligations and transaction costs on closing of $7,477,000; (ii) will issue 337,353 shares of the Corporation in three future tranches at a fair value of $18.30 per share discounted for the timing delay in receiving the shares using an Asian put option pricing model, or $4,851,000; (iii) will make future cash payments of up to $27,000,000 based on the successful attainment of numerous milestone objectives over a three-year period discounted for the estimated probability of successful occurrence and for the timing delay in receiving the cash payments using a credit adjusted risk-free rate observed for bonds of a similar duration, or $26,258,000; and (iv) an actual working capital adjustment of $611,000, for total purchase consideration of $39,197,000. In accordance with *IFRS 3*, the fair value of the 337,353 shares has been measured for accounting purposes using the $18.30 5-day weighted average price of the Corporation's shares immediately preceding the acquisition date.

The preliminary fair value of purchase consideration is as follows:

Cash and debt paid on closing	$	7,477
Deferred share consideration		4,851
Contingent cash consideration		26,258
Working capital adjustment		611
Total Fair Value (Preliminary) of Purchase Consideration	**$**	**39,197**

In accordance with *IFRS 3*, the identifiable assets acquired and liabilities assumed as part of a business combination are recognized separately from goodwill at the acquisition date if they meet the definition of an asset or liability and are exchanged as part of the business combination. The identifiable assets acquired and liabilities assumed are then measured at their acquisition date fair values based on the contractual terms, economic conditions, the Corporation's operating and accounting policies and other pertinent conditions as of the acquisition date. The fair value review of Arcola's (Ballard Motive Solutions) assets and liabilities commenced with a review of the carrying amount of each respective asset and liability. The carrying amounts of all assets and liabilities were subject to due diligence procedures and included confirmation of existence and a review of potential impairment of all significant assets and a review for completeness of all liabilities. Each asset and liability was then reviewed and measured for potential fair value adjustments from carrying cost to arrive at the preliminary fair value of each asset and liability as of the acquisition date of November 11, 2021.

The preliminary fair values of assets acquired and liabilities assumed are as follows:

Cash and cash equivalents	$	320
Trade and other receivables		3,112
Property, plant & equipment		190
Intangible assets		17,279
Goodwill		23,991
Accounts payable and accrued liabilities		(1,817)
Deferred income tax liability		(3,878)
Fair Value (Preliminary) of Assets Acquired and Liabilities Assumed	**$**	**39,197**

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

7. Acquisition (cont'd):

The preliminary fair value of each of the acquired identifiable assets and liabilities assumed was determined as follows:

- The fair value of certain of the acquired working capital balances including trade and other receivables, and accounts payable and accrued liabilities, have been assessed at their respective carrying amounts on November 11, 2021, which is considered to approximately equate to fair value as a result of the short-term to maturity of each of these accounts.

- Acquired property, plant and equipment consist primarily of specialized manufacturing and research and development equipment, as well as miscellaneous other items, all physically located in Arcola's (Ballard Motive Solutions) operating facilities in the U.K. As there is no market-based evidence of fair value for these specialized assets that are rarely sold other than as part of a continuing business, fair value was estimated using a depreciated replacement cost approach in accordance with *IAS 16*. A depreciated replacement cost approach considers how much it would cost to reproduce an asset after adjusting for depreciation and optimization. The adjustment for depreciation takes into account the age of the asset in relation to its useful life and its residual value. The fair value of property, plant and equipment is considered to approximately equate to its carrying amount.

- Acquired identified intangible assets consist of technology (patents, know-how and in-process research and development), customer contracts and relationships, and non-compete arrangements. The Corporation has concluded that each of the identified intangible assets meet the definition of an identified intangible asset (or non-monetary asset without physical substance) under *IAS 38 Intangible Assets* as the acquired IP meets the definition of an asset and is identifiable. The fair value of all identified intangible assets includes a fair value adjustment of $17,279,000 from their original carrying amounts.

Identified intangible assets of $17,279,000 consist of the following and are being amortized based on the following useful lives:

Fair value (preliminary) of Identified Intangible Assets			Estimated useful life
Technology (patents, know-how and in-process research & development)	$	15,976	12 years
Customer contracts and relationships		1,048	7 years
Non-compete agreements		255	3 years
	$	17,279	

The preliminary fair value of acquired identified intangible assets were calculated with the assistance of an independent valuator and were determined through a variety of valuation techniques.

- The fair value of the acquired technology including patents, know-how and in-process research & development totaling $15,976,000 has been calculated using the Multi-Period Excess Earnings Method (“MPEEM”) approach which is a variant of the Income Approach. The basic principle of the MPEEM Approach is that a single asset, in isolation, is not capable of generating cash flow for an enterprise. Several assets are brought together and exploited to generate cash flow. Therefore, to determine cash flow from the exploitation of existing technology, one must deduct the related expenses incurred for the exploitation of other assets used for the generation of overall cash flow and revenues. The fair value of existing technology was estimated by discounting the net cash flow derived from the expected revenues attributable to the acquired technology.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

7. Acquisition (cont'd):

- The fair value of the acquired customer contracts and relationships totaling $1,048,000 has also been calculated using the MPEEM approach. The fair value of existing customer contracts/relationships was estimated by discounting the net cash flow derived from the expected revenues attributable to the acquired customer contracts/relationships.

- The fair value of the acquired non-compete covenants of $255,000 were calculated using the Income Approach whereby the fair value of the non-compete covenants was estimated by calculating the expected decrease or loss in forecasted cash flows if the employees compete with the target's business without the non-compete covenants.

- The fair value of the deferred income tax liability of $3,878,000 represents the excess of the accounting basis of the acquired intangible assets of $17,279,000 over their tax basis of $1,768,000 at the current U.K tax rate of 25.0%.

The remaining unallocated $23,991,000 of the total purchase price consideration of $39,197,000 has been ascribed as goodwill, which is not deductible for tax purposes. The goodwill of $23,991,000 resulting from the acquisition consists largely of the expectation that the acquisition will complement the Corporation's Fuel Cell Products and Services growth platform by delivering strategic benefits in diversification, growth, scale, and profitability.

The amount of revenue and net loss attributable to Arcola (Ballard Motive Solutions) included in the consolidated statement of loss from the acquisition date of November 11, 2021 through the period ended December 31, 2021 is $138,000 and ($1,114,000), respectively.

The following table presents the unaudited pro forma results of Arcola (Ballard Motive Solutions) for the year ended December 31, 2021. The pro forma financial information is presented for informational purposes only and is not indicative of the results of operations that would have been achieved if the acquisition had taken place at the beginning of fiscal 2021. The pro forma financial information presented includes: amortization charges for acquired tangible and intangible assets based on the values assigned in the preliminary purchase price allocation; and income tax recovery on deferred income tax liability arising from the preliminary purchase price allocation.

Proforma Information	December 31, 2021
Revenue	4,243
Loss from operations	(7,336)
Net loss	(5,966)

Acquisition costs of $1,170,000 were incurred in 2021 as a result of this transaction, and are recognized in other operating expense.

8. Discontinued operations:

On October 14, 2020, the Corporation completed an agreement to sell the remaining UAV business assets of its subsidiary, Ballard Unmanned Systems, for gross cash proceeds of $1,000,000. Net proceeds from the sale were $988,000 after deducting for working capital adjustments and legal and other expenses, resulting in a gain on sale of these assets of $168,000.

The Ballard Unmanned Systems subsidiary has been classified and accounted for as a discontinued operation. The historic operating results of the UAV market for both 2021 and 2020 have been removed from continued operating results and are instead presented separately in the statement of comprehensive income (loss) as income (loss) from discontinued operations.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

8. Discontinued operations (cont'd):

Net income (loss) from discontinued operations for the years ended December 31, 2021 and 2020 is comprised of the following:

	2021	2020
Product and service revenues	$ —	$ 262
Cost of product and service revenues	—	223
Gross margin	$ —	$ 39
Total operating income (expenses)	164	(2,115)
Finance income and other	—	—
Gain (loss) on sale of assets	—	168
Net income (loss) from discontinued operations	$ 164	$ (1,908)

Net cash flows from discontinued operations for the years ended December 31, 2021 and 2020 is as follows:

	2021	2020
Cash used in operating activities	$ (113)	$ (1,607)
Cash provided by investing activities	—	957
Cash used in financing activities	—	(20)
Cash used in discontinued operations	$ (113)	$ (670)

9. Trade and other receivables:

	December 31, 2021	December 31, 2020
Trade accounts receivable	$ 19,423	$ 29,252
Other receivables	6,586	5,269
Contract assets	20,386	22,274
	$ 46,395	$ 56,795

Contract assets

Contract assets primarily relate to the Corporation's rights to consideration for work completed but not billed as at December 31, 2021 for engineering services and technology transfer services.

Contract assets	December 31, 2021
At January 1, 2021	$ 22,274
Additions to contract assets	27,282
Invoiced during the year	(29,170)
At December 31, 2021	$ 20,386

Information about the Corporation's exposure to credit and market risks, and impairment losses for trade receivables and contract assets is included in note 31.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

10. Inventories:

	December 31, 2021	December 31, 2020
Raw materials and consumables	$ 22,394	$ 11,879
Work-in-progress	19,795	8,330
Finished goods	5,350	3,746
Service inventory	3,978	4,567
	$ 51,517	$ 28,522

In 2021, the amount of raw materials and consumables, finished goods and work-in-progress recognized as cost of product and service revenues amounted to $60,803,000 (2020 - $49,710,000).

In 2021, the write-down of inventories to net realizable value amounted to $1,246,000 (2020 - $1,888,000) and the reversal of previously recorded write-downs amounted to $136,000 (2020 - $434,000), resulting in a net write-down of $1,110,000 (2020 - $1,454,000). Write-downs and reversals are included in either cost of product and service revenues, or research and product development expense, depending on the nature of inventory.

11. Property, plant and equipment:

	December 31, 2021	December 31, 2020
Property, plant and equipment owned	$ 43,855	$ 36,560
Right-of-use assets	12,206	12,774
	$ 56,061	$ 49,334

Property, plant and equipment owned:

Net carrying amounts	December 31, 2021	December 31, 2020
Computer equipment	$ 1,599	$ 1,846
Furniture and fixtures	762	657
Leasehold improvements	1,518	1,558
Production and test equipment	39,976	32,499
	$ 43,855	$ 36,560

Cost	December 31, 2020	Additions	Additions through Acquisition	Impairment	Transfers	Effect of movements in exchange rates	December 31, 2021
Computer equipment	$ 6,635	$ 442	$ —	$ —	$ (225)	$ —	$ 6,852
Furniture and fixtures	1,754	164	—	—	(4)	—	1,914
Leasehold improvements	9,196	274	—	—	(18)	(2)	9,450
Production and test equipment	66,392	12,278	16	(263)	(775)	(4)	77,644
	$ 83,977	$ 13,158	$ 16	$ (263)	$ (1,022)	$ (6)	$ 95,860

During 2021, additions through acquisition of property, plant and equipment relate to the acquisition of Arcola (Ballard Motive Solutions) on November 11, 2021 (note 7).

During the year ended December 31, 2021, an impairment loss of $263,000 was recorded for production and test equipment that was never placed in service and was determined not required to support the Corporation's future manufacturing or testing capabilities.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

11. Property, plant and equipment (cont'd):

Property, plant and equipment owned (owned):

Accumulated depreciation	December 31, 2020	Depreciation	Transfers	Effect of movements in exchange rates	December 31, 2021
Computer equipment	$ 4,789	$ 654	$ (175)	$ (15)	$ 5,253
Furniture and fixtures	1,097	63	(4)	(4)	1,152
Leasehold improvements	7,638	331	(18)	(19)	7,932
Production and test equipment	33,893	4,607	(825)	(7)	37,668
	$ 47,417	$ 5,655	$ (1,022)	$ (45)	$ 52,005

Cost	December 31, 2019	Additions	Disposals	Transfers	Effect of movements in exchange rates	December 31, 2020
Computer equipment	$ 5,733	$ 791	$ —	$ 75	$ 36	$ 6,635
Furniture and fixtures	1,098	642	—	15	(1)	1,754
Leasehold improvements	8,559	440	—	170	27	9,196
Production and test equipment	55,681	10,747	(560)	500	24	66,392
	$ 71,071	$ 12,620	$ (560)	$ 760	$ 86	$ 83,977

Accumulated depreciation	December 31, 2019	Depreciation	Disposals	Transfers	Effect of movements in exchange rates	December 31, 2020
Computer equipment	$ 4,306	$ 379	$ —	$ 75	$ 29	$ 4,789
Furniture and fixtures	1,047	25	—	15	10	1,097
Leasehold improvements	7,299	302	—	—	37	7,638
Production and test equipment	30,673	3,053	(512)	670	9	33,893
	$ 43,325	$ 3,759	$ (512)	$ 760	$ 85	$ 47,417

Right-of-use assets:

The Corporation leases certain assets under lease agreements, comprising primarily of leases of land and buildings, office equipment and vehicles (note 19).

Right-of-use assets Net carrying amounts	December 31, 2021	December 31, 2020
Property	$ 11,837	$ 12,537
Equipment	139	121
Vehicle	230	116
	$ 12,206	$ 12,774

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

11. Property, plant and equipment (cont'd):

Right-of-use assets (cont'd):

Cost	December 31, 2020	Additions	Additions through acquisition	Transfer	Effect of movements in exchange rates	December 31, 2021
Property	$ 24,665	$ 1,967	$ —	$ (137)	$ (68)	$ 26,427
Equipment	149	46	—	(22)	2	175
Vehicle	208	—	174	—	(10)	372
	$ 25,022	$ 2,013	$ 174	$ (159)	$ (76)	$ 26,974

During 2021, additions through acquisition of right-of-use assets relate to the acquisition of Arcola (Ballard Motive Solutions) on November 11, 2021 (note 7).

Accumulated depreciation	December 31, 2020	Depreciation	Transfer	Effect of movements in exchange rates	December 31, 2021
Property	$ 12,128	$ 2,633	$ (137)	$ (34)	$ 14,590
Equipment	28	28	(22)	2	36
Vehicle	92	54	—	(4)	142
	$ 12,248	$ 2,715	$ (159)	$ (36)	$ 14,768

Cost	December 31, 2019	Additions	De-recognition	Effect of movements in exchange rates	December 31, 2020
Property	$ 24,568	$ —	$ (46)	$ 143	$ 24,665
Equipment	84	102	(42)	5	149
Vehicle	142	54	—	12	208
	$ 24,794	$ 156	$ (88)	$ 160	$ 25,022

Accumulated depreciation	December 31, 2019	Depreciation	De-recognition	Effect of movements in exchange rates	December 31, 2020
Property	$ 9,647	$ 2,488	$ (46)	$ 39	$ 12,128
Equipment	17	25	(15)	1	28
Vehicle	40	46	—	6	92
	$ 9,704	$ 2,559	$ (61)	$ 46	$ 12,248

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

12. Intangible assets:

	December 31, 2021	December 31, 2020
Intellectual property acquired from UTC	$ 74	$ 522
ERP management reporting software system	3,631	3,242
Intellectual property acquired from Ballard Motive Solutions, net of amortization (note 7)	17,083	—
	$ 20,788	$ 3,764

	Cost	Accumulated amortization	Net carrying amount
At January 1, 2020	$ 60,409	$ 54,722	$ 5,687
Additions to intangible assets	246	—	246
Amortization expense	—	1,657	(1,657)
Disposals	(800)	(288)	(512)
At December 31, 2020	59,855	56,091	3,764
Acquisition of intangible assets	17,279	—	17,279
Additions to intangible assets	1,543	—	1,543
Amortization expense	—	1,798	(1,798)
At December 31, 2021	$ 78,677	$ 57,889	$ 20,788

Acquisition of intangible assets in 2021 relate to the acquisition of Arcola's (Ballard Motive Solutions) intangible assets of $17,279,000 (note 7). Additions to intangible assets of $1,543,000 consist primarily of a new Phase 3 of enhancements of $1,385,000 (2020 - $nil) and $158,000 (2020 - $246,000) of costs primarily for a Manufacturing Execution System, both of which enhance the capabilities of the ERP management reporting software system.

Amortization expense on intangible assets is allocated to research and product development expense or general and administration expense depending upon the nature of the underlying assets. In 2021, amortization of $1,798,000 (2020 - $1,657,000) was recorded.

13. Goodwill:

For the purpose of impairment testing, goodwill is allocated to the Corporation's cash-generating units which represent the lowest level within the Corporation at which the goodwill is monitored for internal management purposes, which is not higher than the Corporation's operating segments (note 30).

As of December 31, 2021, the aggregate carrying amount of the Corporation's goodwill is $64,268,000 (2020 - $40,277,000). During the year ended December 31, 2021, the Corporation acquired goodwill of $23,991,000 as part of the acquisition of Arcola (Ballard Motive Solutions) (note 7).

The impairment testing requires a comparison of the carrying value of the asset to the higher of (i) value in use; and (ii) fair value less costs to sell. Value in use is defined as the present value of future cash flows expected to be derived from the asset in its current state.

The Corporation's fair value less costs to sell test is a modified market capitalization assessment, whereby the fair value of the Fuel Cell Products and Services segment is determined by first calculating the value of the Corporation at December 31, 2021 based on the average closing share price in the month of December, adding a reasonable estimated control premium to determine the Corporation's enterprise value on a controlling basis after adjusting for excess cash balances, deducting the fair value of long-term financial investments, and then deducting the estimated costs to sell to arrive at the fair value of the Fuel Cell Products and Services segment. Based on the fair value less costs to sell test, the Corporation has determined that the fair value of the Fuel Cell Products and Services segment exceeds its carrying value as of December 31, 2021, indicating that no goodwill impairment charge is required for 2021 ($nil in 2020).

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

14. Investments:

	December 31, 2021	December 31, 2020
Investment in Weichai Ballard JV (note 4)	$ 28,982	$ 27,561
Investment in Synergy Ballard JVCo (note 4)	—	—
Investment in Forsee Power	33,335	—
Investment in HyCap Fund I SCSp	7,636	—
Investment in CleanH2 Fund	339	—
Other	—	5
	$ 70,292	$ 27,566

For the year ended December 31, 2021, the Corporation recorded $16,140,000 (2020 - $12,557,000) in equity loss of investment in JV and associates, consisting of equity loss in Weichai Ballard JV of $16,084,000 (2020 - $12,495,000) and equity loss in Synergy Ballard JVCo of $56,000 (2020 - $62,000).

Investment in Weichai Ballard JV

Investment in Weichai Ballard JV	December 31, 2021	December 31, 2020
Beginning balance	$ 27,561	$ 21,642
Capital contribution to JV	12,351	22,515
Recognition (deferral) of 49% profit on inventory not yet sold to third party, net	3,909	(5,759)
Equity in loss	(16,084)	(12,495)
Cumulative translation adjustment due to foreign exchange	1,245	1,658
Ending balance	$ 28,982	$ 27,561

Weichai Ballard JV is an associate in which the Corporation has significant influence and a 49% ownership interest. During the year ended December 31, 2021, the Corporation made committed capital contributions of $12,351,000 (RMB 79,625,000 equivalent) (2020 - $22,515,000 (RMB 155,575,000 equivalent)) to Weichai Ballard JV. At December 31, 2021, as specified in the Equity Joint Venture Agreement, the Corporation is currently committed to its last remaining capital contributions to Weichai Ballard JV of $9,834,000 (RMB 62,475,000) in 2022.

The following tables summarize the financial information of Weichai Ballard JV as included in its own financial statements as of December 31, 2021, adjusted for foreign exchange differences, the application of the Corporation's accounting policies, and the Corporation's incorporation costs.

	December 31, 2021	December 31, 2020
Percentage ownership interest (49%)		
Current assets	$ 104,907	$ 102,083
Non-current assets	2,339	178
Current liabilities	(36,385)	(26,701)
Non-current liabilities	(2,861)	(2,610)
Net assets (100%)	68,000	72,950
Corporation's share of net assets (49%)	33,320	35,746
Incorporation costs	324	324
Elimination of unrealized profit on downstream sales, net of sale to third party	(4,662)	(8,509)
Carrying amount of investment in Weichai Ballard JV	$ 28,982	$ 27,561

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

14. Investments (cont'd):

Investment in Weichai Ballard JV (cont'd)

		December 31, 2021		December 31, 2020
Revenue (100%)	$	38,260	$	15,765
Net loss (100%)		32,825		25,499
Corporation's share of net loss (49%)	$	16,084	$	12,495

Investment in Synergy Ballard JVCo

Investment in Synergy Ballard JVCo		December 31, 2021		December 31, 2020
Beginning balance	$	—	$	—
Recognition of 10% profit on inventory sold to third party, net		56		62
Equity in loss		(56)		(62)
Ending balance	$	—	$	—

Synergy Ballard JVCo is an associate in which the Corporation has significant influence and a 10% ownership interest. During the year ended December 31, 2021, the Corporation made committed capital contributions of $nil (2020 - $nil) to Synergy Ballard JVCo.

Investment in Forsee Power

In October 2021, the Corporation entered into a strategic partnership with Forsee Power, a leader in smart battery systems for sustainable electromobility. The strategic partnership is to develop a fully integrated fuel cell and battery solution, optimized for performance, cost, and installation for heavy-duty hydrogen mobility applications. As part of the strategic relationship, the Corporation committed to participate as a lead investor in connection with the initial public offering ("IPO") on Euronext in Paris, France, of Forsee Power. Pursuant to this commitment, the Corporation purchased 5,200,000 shares for consideration of $43,809,000 (€37,700,000) in October 2021, resulting in an ownership interest of 9.77% in Forsee Power upon completion of the IPO. The Corporation also appointed a board member to the Forsee Power board of directors.

During the year ended December 31, 2021, changes in fair value and foreign exchange adjustments totalling ($10,474,000) were recognized as an unrealized loss in the consolidated statement of loss and comprehensive income (loss) and included in finance income (loss) and other (notes 26 and 31), resulting in net fair value investment in Forsee Power of $33,335,000 as of December 31, 2021.

Investment in Hydrogen Funds

HyCap Fund

In August 2021, the Corporation entered into a Subscription Agreement pursuant to a Limited Partnership Agreement (“LPA”), committing to be a limited partner in HyCap Fund I SCSp (“HyCap”), a newly-created hydrogen infrastructure and growth equity fund. The fund will invest in a combination of hydrogen infrastructure projects and investments in companies along the hydrogen value chain. The Corporation has committed to investing £25,000,000 ($33,698,000) into this fund which will allow it to appoint two representatives to participate in the Advisory Committee. In the three months ended December 31, 2021, the Corporation made initial contributions of £5,665,000 ($7,610,000).

14. Investments (cont'd):

Investment in Hydrogen Funds (cont'd)

HyCap Fund (cont'd)

During the year ended December 31, 2021, changes in fair value and foreign exchange adjustments totalling $26,000 were recognized as an unrealized gain in the consolidated statement of loss and comprehensive income (loss) and included in finance income (loss) and other (notes 26 and 31), resulting in net fair value investment in HyCap of $7,636,000 as of December 31, 2021.

Clean H2 Infrastructure Fund

In December 2021, the Corporation entered into a Subscription Agreement pursuant to a Limited Partnership Agreement ("LPA"), committing to be a limited partner in Clean H2 Infrastructure Fund I ("Clean H2"), another newly-created hydrogen infrastructure and growth equity fund. The fund will invest in a combination of hydrogen infrastructure projects and investments in companies along the hydrogen value chain. The Corporation has committed to investing €30,000,000 ($33,978,000) into this fund which will allow it to appoint two representatives to participate in the Advisory Committee. In the three months ended December 31, 2021, the Corporation made its initial contribution of £300,000 ($337,000).

During the year ended December 31, 2021, changes in fair value and foreign exchange adjustments totalling $2,000 were recognized as an unrealized gain in the consolidated statement of loss and comprehensive income (loss) and included in finance income (loss) and other (notes 26 and 31), resulting in net fair value investment in Clean H2 of $339,000 as of December 31, 2021.

15. Bank facilities:

The Corporation has the following bank facilities available to it.

Letter of Guarantee Facility

The Corporation has an operating facility ("LG Facility"), enabling the bank to issue letters of guarantees, standby letters of credit, performance bonds, counter guarantees, counter standby letters of credit or similar credit on the Corporation's behalf from time to time up to a maximum of $2,000,000.

At December 31, 2021, $nil (2020 - $nil) was outstanding on the LG Facility.

Foreign Exchange Facility

The Corporation also has a demand revolving foreign exchange facility ("FX Facility") that allows the Corporation to purchase foreign exchange currency contracts up to a maximum face value of $23,684,000 (CDN $29,000,000) secured by a guarantee from Export Development Canada.

At December 31, 2021, the Corporation had outstanding foreign exchange currency contracts to purchase a total of CDN $26,500,000 (2020 – CDN $16,750,000) at an average rate of 1.26 CDN per U.S. dollar, resulting in an unrealized gain (loss) of CDN $(33,000) at December 31, 2021 (2020 – $632,000). The unrealized gain (loss) on forward foreign exchange contracts is presented in prepaid expenses and other current assets on the statement of financial position.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

16. Trade and other payables:

	December 31, 2021	December 31, 2020
Trade accounts payable	$ 13,689	$ 9,070
Compensation payable	15,830	14,417
Other liabilities	9,130	5,306
Taxes payable	906	1,084
	$ 39,555	$ 29,877

17. Deferred revenue:

Deferred revenue (i.e. contract liabilities) represents cash received from customers in excess of revenue recognized on uncompleted contracts.

Deferred revenue	December 31, 2021	December 31, 2020
Beginning Balance	$ 9,888	$ 20,156
Additions to deferred revenue	23,618	43,166
Revenue recognized during the year	(21,397)	(53,434)
Ending Balance	$ 12,109	$ 9,888

18. Provisions and other liabilities:

Balance	Restructuring provision	Warranty provision	Onerous contracts	Contingent consideration	Other liabilities	Total
At January 1, 2020	$ 8	$ 10,480	$ —	$ —	$ 1,688	$ 12,176
Provisions made during the year	66	3,189	—	—	40	3,295
Provisions used/paid during the year	(65)	(2,569)	—	—	—	(2,634)
Provisions reversed/expired during the year	—	(1,486)	—	—	—	(1,486)
Effect of movements in exchange rates	1	11	—	—	36	48
At December 31, 2020	10	9,625	—	—	1,764	11,399
Provisions made during the year	131	4,102	300	26,258	109	30,900
Provisions used/paid during the year	(136)	(3,894)	—	—	—	(4,030)
Provisions reversed/expired during the year	—	(1,112)	—	—	—	(1,112)
Effect of movements in exchange rates	—	(9)	—	—	4	(5)
At December 31, 2021	$ 5	$ 8,712	$ 300	$ 26,258	$ 1,877	$ 37,152

At December 31, 2020						
Current	$ 10	$ 9,625	$ —	$ —	$ —	$ 9,635
Non-current	—	—	—	—	1,764	1,764
	$ 10	$ 9,625	$ —	$ —	$ 1,764	$ 11,399

At December 31, 2021						
Current	$ 5	$ 8,712	$ 300	$ 19,240	$ —	$ 28,257
Non-current	—	—	—	7,018	1,877	8,895
	$ 5	$ 8,712	$ 300	$ 26,258	$ 1,877	$ 37,152

18. Provisions and other liabilities (cont'd):

Restructuring provision

Restructuring charges relate to minor restructurings focused on overhead cost reductions and relate primarily to employee termination benefits. Restructuring charges are recognized in other operating expense.

Warranty provision

The Corporation recorded warranty provisions of $4,102,000 (2020 - $3,189,000), comprised of $2,711,000 (2020 - $3,098,000) related to new product sales and $1,391,000 (2020 - $91,000) related to upward warranty adjustments. This was offset by warranty expenditures of $3,894,000 (2020 - $2,569,000) and downward warranty adjustments of $1,112,000 (2020 - $1,486,000), due primarily to contractual expirations and changes in estimated and actual costs to repair. The remaining $9,000 decrease (2020 – $11,000 increase) to the warranty provision related to the effect of movements in exchange rates.

Onerous Contracts

Prior to the January 1, 2022 effective date of the *Amendments to IAS 37 (*note 6), the Corporation performed a detailed review of its contracts as of December 31, 2021, which consistent with past practice, only included incremental costs, to determine if a contract was onerous. As a result of this review, Ballard recorded an onerous contract provision of $300,000 as of December 31, 2021.

On completion of the review of contract costs in preparation for the implementation of *Onerous Contracts – Cost of Fulfilling a Contract (Amendments to IAS 37)* and with the inclusion of other direct costs in addition to incremental costs, it was determined that on adoption of the *Amendments to IAS 37*, additional contracts are expected to be deemed onerous with a calculated additional provision of $1,200,000 which is expected to be recorded on January 1, 2022 against retained earnings as an opening balance adjustment. The Corporation will continue to review open contracts on a quarterly basis to determine if any ongoing or new contracts become onerous, and if any of the underlying conditions or assumptions change which would require an adjustment to the accrued provision.

Contingent Consideration

As part of the acquisition of Arcola (Ballard Motive Solutions) (note 7), total consideration includes earn-out cash consideration payable by the Corporation, based on the achievement of certain performance milestones over a three year period from the acquisition date. These future cash payments of up to $27,000,000 are contingently based on the successful attainment of numerous milestone objectives over a three-year period discounted for the estimated probability of successful occurrence and for the timing delay in receiving the cash payments, or $26,258,000.

Cash payments of $4,800,000 were made by the Corporation in January 2022, upon successful achievement of three performance milestones.

Other liabilities: Decommissioning liabilities

A provision for decommissioning liabilities has been recorded for the Corporation’s head office building in Burnaby, British Columbia and is related to estimated site restoration obligations at the end of the lease term. The Corporation has made certain modifications to the leased building to facilitate the manufacturing and testing of its fuel cell products. Consequently, the site restoration obligations relate primarily to dismantling and removing various manufacturing and test equipment and restoring the infrastructure of the leased building to its original state of when the lease was entered into.

Due to the long-term nature of the liability, the most significant uncertainty in estimating the provision is the costs that will be incurred. The Corporation has determined a range of reasonably possible outcomes of the total costs for the head office building. In determining the fair value of the decommissioning liabilities, the estimated future cash flows have been discounted at 1.25% per annum (2020 – 0.39%).

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

18. Provisions and other liabilities (cont'd):

Other liabilities: Decommissioning liabilities (cont'd)

The Corporation performed an assessment of the estimated cash flows required to settle the obligations for the building as of December 31, 2021. Based on the assessment, an increase of $65,000 in the provision (2020 - $nil) was recorded against decommissioning liabilities, in addition to accretion costs of $44,000 (2020 - $40,000).

The net discounted amount of estimated cash flows required to settle the obligation for the building is $1,877,000 (2020 -$1,764,000) which is expected to be settled at the end of the lease term in 2025.

19. Lease liability:

The Corporation leases certain assets under lease agreements. The lease liability consists primarily of leases of land and buildings, office equipment and vehicles. The leases have interest rates ranging from 2.45% to 6.85% per annum and expire between May 2022 and June 2032.

	December 31, 2021	December 31, 2020
Property	$ 3,117	$ 2,613
Equipment	38	29
Vehicle	83	49
Lease Liability, Current	$ 3,238	$ 2,691
Property	$ 13,647	$ 15,017
Equipment	105	98
Vehicle	130	67
Lease Liability, Non-current	$ 13,882	$ 15,182
Lease Liability	$ 17,120	$ 17,873

The Corporation is committed to minimum lease payments as follows:

Maturity Analysis	December 31, 2021
Less than one year	$ 4,296
Between one and five years	13,194
More than five years	2,866
Total undiscounted lease liabilities	$ 20,356

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

19. Lease liability (cont'd):

IFRS 16 Leases had the following impact for the years ended December 31, 2021 and 2020.

Amounts recognized in profit or loss		December 31, 2021		December 31, 2020
Interest on lease liabilities	$	1,225	$	1,244
Income from sub-leasing right-of-use assets		1,744		1,557
Expenses relating to short-term leases		168		120

Amounts recognized in the statement of cash flows				
Interest paid	$	1,225	$	1,244
Principal payments of lease liabilities		2,798		2,517
Expenses relating to short-term leases		168		120
Total cash outflow for leases	$	4,191	$	3,881

Deferred gains were also recorded on closing of the finance lease agreement and are amortized over the lease term. At December 31, 2021, the outstanding deferred gain was $1,318,000 (2020 – $1,734,000).

20. Employee future benefits:

		December 31, 2021		December 31, 2020
Net defined benefit pension plan liability	$	1,814	$	3,856
Net other post-retirement benefit plan liability		80		85
Employee future benefits	$	1,894	$	3,941

The Corporation maintains a defined benefit pension plan covering existing and former employees in the United States. The benefits under the pension plan are based on years of service and salary levels accrued as of December 31, 2009. In 2009, amendments were made to the defined benefit pension plan to freeze benefits accruing to employees at their respective years of service and salary levels obtained as of December 31, 2009. Certain employees in the United States are also eligible for post-retirement healthcare, life insurance, and other benefits.

The Corporation accrues the present value of its obligations under employee future benefit plans and related costs, net of the present value of plan assets.

The measurement date used to determine pension and other post-retirement benefit obligations and expense is December 31 of each year. The most recent actuarial valuation of the employee future benefit plans for funding purposes was as of January 1, 2021. The next actuarial valuation of the employee future benefit plans for funding purposes is expected to be performed as of January 1, 2022.

The Corporation expects contributions of $nil to be paid to its defined benefit plans in 2022.

The following tables reconcile the opening balances to the closing balances for the net defined benefit liability and its components for the two plans. The expense recognized in profit or loss is recorded in finance income (loss) and other.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

20. Employee future benefits (cont'd):

	Defined benefit obligation		Fair value of plan assets		Net defined benefit liability	
Defined benefit pension plan	**2021**	2020	**2021**	2020	**2021**	2020
Balance at January 1	**$ 20,203**	$ 18,272	**$ (16,347)**	$ (13,964)	**$ 3,856**	$ 4,308
Included in profit or loss						
Current service cost	**37**	36	**—**	—	**37**	36
Interest cost (income)	**476**	566	**(383)**	(440)	**93**	126
Benefits payable	**—**	—	**—**	—	**—**	—
	513	602	**(383)**	(440)	**130**	162
Included in other comprehensive income						
Remeasurements loss (gain):						
Actuarial loss (gain) arising from:						
Demographic assumptions	**56**	(150)	**—**	—	**56**	(150)
Financial assumptions	**(986)**	2,054	**—**	—	**(986)**	2,054
Experience adjustment	**92**	110	**—**	—	**92**	110
Return on plan assets excluding interest income	**—**	—	**(1,334)**	(1,733)	**(1,334)**	(1,733)
Plan expenses	**(30)**	(36)	**30**	36	**—**	—
	(868)	1,978	**(1,304)**	(1,697)	**(2,172)**	281
Other						
Contributions paid by the employer	**—**	—	**—**	(895)	**—**	(895)
Benefits paid	**(661)**	(649)	**661**	649	**—**	—
	(661)	(649)	**661**	(246)	**—**	(895)
Balance at December 31	**$ 19,187**	$ 20,203	**$ (17,373)**	$ (16,347)	**$ 1,814**	$ 3,856

	Defined benefit obligation		Fair value of plan assets		Net defined benefit liability	
Other post-retirement benefit plan	**2021**	2020	**2021**	2020	**2021**	2020
Balance at January 1	**$ 85**	$ 88	**$ —**	$ —	**$ 85**	$ 88
Included in profit or loss						
Interest cost (income)	**1**	2	**—**	—	**1**	2
	1	2	**—**	—	**1**	2
Included in other comprehensive income						
Remeasurements loss (gain):						
Actuarial loss (gain) arising from:						
Demographic assumptions	**—**	(5)	**—**	—	**—**	(5)
Financial assumptions	**(2)**	6	**—**	—	**(2)**	6
Experience adjustment	**4**	7	**—**	—	**4**	7
	2	8	**—**	—	**2**	8
Other						
Contributions paid by the employer	**—**	—	**(8)**	(13)	**(8)**	(13)
Benefits paid	**(8)**	(13)	**8**	13	**—**	—
	(8)	(13)	**—**	—	**(8)**	(13)
Balance at December 31	**$ 80**	$ 85	**$ —**	$ —	**$ 80**	$ 85

Included in other comprehensive income (loss)	December 31, 2021	December 31, 2020
Defined benefit pension plan actuarial gain (loss)	$ 2,172	$ (281)
Other post-retirement benefit plan actuarial loss	(2)	(8)
	$ 2,170	$ (289)

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

20. Employee future benefits (cont'd):

Pension plan assets comprise:

	2021	2020
Cash and cash equivalents	3 %	3 %
Equity securities	60 %	61 %
Debt securities	37 %	36 %
Total	100 %	100 %

The significant actuarial assumptions adopted in measuring the fair value of benefit obligations at December 31 were as follows:

		2021		2020
	Pension plan	Other benefit plan	Pension plan	Other benefit plan
Discount rate	2.76 %	2.25 %	2.40 %	1.82 %
Rate of compensation increase	n/a	n/a	n/a	n/a

The significant actuarial assumptions adopted in determining net expense for the years ended December 31 were as follows:

		2021		2020
	Pension plan	Other benefit plan	Pension plan	Other benefit plan
Discount rate	2.40 %	2.25 %	3.16 %	1.82 %
Rate of compensation increase	n/a	n/a	n/a	n/a

Impacts of assumed health care cost trend rates applicable to the other post-retirement benefit plan at December 31, 2021 including a one-percentage-point change in assumed health care cost trend rates would not have a material impact on the Corporation’s financial statements.

21. Equity:

Share-based compensation	December 31, 2021	December 31, 2020
Option Expense	$ 6,093	$ 4,482
DSU Expense	672	314
RSU Expense	2,904	1,432
Total share-based compensation for continuing operations (per statement of loss)	$ 9,669	$ 6,228
Discontinued operations	—	9
Total share-based compensation (per statement of equity)	$ 9,669	$ 6,237

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

21. Equity (cont'd):

(a) Share capital:

On February 23, 2021, the Corporation completed a bought deal offering with a syndicate of financial institutions for 14,870,000 shares of the Corporation at $37.00 per share, resulting in gross offering proceeds of $550,190,000 and net offering proceeds of $527,291,000.

Shares Transacted		14,870,000
Average Share Price	$	37.00
Gross offering proceeds	$	550,190
Less: Underwriting expenses		(22,186)
Less: Other financing expenses		(713)
Net offering proceeds	$	527,291

During the year ended December 31, 2020, the Corporation entered into two at-the-market Equity Distribution Agreements, issuing 24,648,248 shares at an average price per share of $12.85 for gross proceeds of $316,673,000 and net proceeds of $308,826,000.

During the year ended December 31, 2020, the Corporation also completed a bought deal offering with a syndicate of underwriters of 20,909,300 shares at $19.25 per share, resulting in gross proceeds of $402,504,000 and net proceeds of $385,782,000.

		December 31, 2020
Net proceeds from ATM programs	$	308,826
Net proceeds from bought deal offering		385,782
Total net proceeds from equity offerings	$	694,608

During March 2021, the Corporation filed a short form base Shelf Prospectus, which provides the flexibility to make offerings of securities up to an aggregate initial offering price of $1,500,000,000 during the effective period of the Prospectus, until April 2023.

At December 31, 2021, 297,700,295 (2020 - 282,078,177) common shares were issued and outstanding.

(b) Share options:

The Corporation has options outstanding under a consolidated share option plan. All directors, officers and employees of the Corporation, and its subsidiaries, are eligible to participate in the share option plans although as a matter of policy, options are currently not issued to directors. Option exercise prices are denominated in either Canadian or U.S. dollars, depending on the residency of the recipient. Canadian dollar denominated options have been converted to U.S. dollars using the year-end exchange rate for presentation purposes.

All options have a term of seven years from the date of grant unless otherwise determined by the board of directors. One-third of the options vest and may be exercised, at the beginning of each of the second, third, and fourth years after granting.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

21. Equity (cont'd):

(b) Share options (cont'd):

As at December 31, options outstanding from the consolidated share option plan were as follows:

Balance	Options for common shares	Weighted average exercise price
At January 1, 2020	4,116,149	$ 2.92
Options granted	1,834,919	12.36
Options exercised	(1,693,466)	2.77
Options forfeited	(107,963)	6.86
Options expired	—	—
At December 31, 2020	4,149,639	7.07
Options granted	540,116	21.12
Options exercised	(549,281)	4.33
Options forfeited	(98,907)	10.09
Options expired	—	—
At December 31, 2021	4,041,567	$ 9.25

The following table summarizes information about the Corporation's share options outstanding as at December 31, 2021:

	Options outstanding			Options exercisable	
Range of exercise price	Number outstanding	Weighted average remaining contractual life (years)	Weighted average exercise price	Number exercisable	Weighted average exercise price
$1.23 - $1.50	118,517	1.1	$ 1.42	118,517	$ 1.42
$2.00 - $2.36	260,507	1.6	2.17	260,507	2.17
$2.86 - $3.16	339,976	3.6	2.93	285,894	2.90
$3.21 - $4.71	1,150,704	3.9	3.46	800,235	3.53
$10.64 - $13.46	1,275,856	5.3	11.35	340,989	11.16
$15.63 - $26.13	896,007	6.0	19.18	157,651	15.83
	4,041,567	4.6	$ 9.25	1,963,793	$ 5.44

During 2021, compensation expense of $6,093,000 (2020 – $4,482,000) was recorded in net loss based on the grant date fair value of the awards recognized over the vesting period.

During 2021, 549,281 options were exercised for an equal amount of common shares for proceeds of $2,415,000. During 2020, 1,693,466 options were exercised for an equal amount of common shares for proceeds of $4,438,000.

During 2021, options to purchase 540,116 common shares were granted with a weighted average fair value of $10.76 (2020 – 1,834,919 options and $5.49 fair value). The granted options vest annually over three years.

The fair values of the options granted were determined using the Black-Scholes valuation model under the following weighted average assumptions:

	2021	2020
Expected life	4 years	4 years
Expected dividends	Nil	Nil
Expected volatility	67 %	61 %
Risk-free interest rate	1 %	1 %

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

21. Equity (cont'd):

(b) Share options (cont'd):

As at December 31, 2021, options to purchase 4,041,567 common shares were outstanding (2020 – 4,149,639).

(c) Share distribution plan:

The Corporation has a consolidated share distribution plan that permits the issuance of common shares for no cash consideration to employees of the Corporation to recognize their past contribution and to encourage future contribution to the Corporation. At December 31, 2021, there were 19,540,514 (2020 – 17,877,028) shares available to be issued under this plan.

During 2020 and 2021, no shares were issued under this plan and therefore no compensation expense was recorded against profit or loss.

(d) Deferred share units:

Deferred share units ("DSUs") are granted to the board of directors and executives. Eligible directors must elect to receive at least half of their annual retainers and executives may elect to receive all or part of their annual bonuses in DSUs. Each DSU is redeemable for one common share in the capital of the Corporation after the director or executive ceases to provide services to the Corporation. Shares will be issued from the Corporation's share distribution plan.

Balance	DSUs for common shares
At January 1, 2020	811,378
DSUs granted	23,809
DSUs exercised	(15,156)
At December 31, 2020	820,031
DSUs granted	35,953
DSUs exercised	(99,761)
At December 31, 2021	756,223

During 2021, compensation expense of $672,000 (2020 - $314,000) was recorded in net loss relating to 35,953 DSUs (2020 - 23,809) granted during the year.

During 2021, 99,761 DSUs (2020 – 15,156) were exercised, net of applicable taxes, which resulted in the issuance of 46,388 common shares (2020 – 7,608), resulting in an impact on equity of $1,290,000 (2020 - $64,000).

As at December 31, 2021, 756,223 deferred share units were outstanding (2020 – 820,031).

(e) Restricted share units:

Restricted share units ("RSUs") are granted to employees and executives. Each RSU is convertible into one common share. The RSUs vest after a specified number of years from the date of issuance, and under certain circumstances, are contingent on achieving specified performance criteria. A performance factor adjustment is made if there is an over-achievement (or under-achievement) of specified performance criteria, resulting in additional (or fewer) RSUs being converted.

The Corporation has two plans under which RSUs may be granted, the consolidated share distribution plan and the market purchase RSU plan. Awards under the consolidated share distribution plan are satisfied by the issuance of treasury shares on maturity.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

21. Equity (cont'd):

(e) Restricted share units (cont'd):

Balance	RSUs for common shares
At January 1, 2020	1,305,265
RSUs granted	334,758
RSU performance factor adjustment	98,867
RSUs exercised	(593,025)
RSUs forfeited	(15,919)
At December 31, 2020	1,129,946
RSUs granted	195,838
RSU performance factor adjustment	(12,128)
RSUs exercised	(325,863)
RSUs forfeited	(21,573)
At December 31, 2021	966,220

During 2021, compensation expense of $2,904,000 (2020 - $1,432,000) was recorded in net loss.

During 2021, 195,838 RSUs were issued (2020 – 334,758). The fair value of RSU grants is measured based on the stock price of the shares underlying the RSU on the date of grant.

During 2021, 325,863 RSUs (2020 – 593,025) were exercised, net of applicable taxes, which resulted in the issuance of 156,449 common shares (2020 – 305,229), resulting in an impact on equity of $4,357,000 (2020 - $3,023,000).

As at December 31, 2021, 966,220 RSUs were outstanding (2020 – 1,129,946).

22. Commitments and contingencies:

The Corporation is committed to capital contributions to Weichai Ballard JV in 2022 (note 14). The Corporation is also committed to minimum lease payments (note 19).

Long-term investments include two investments committing the Corporation to be a limited partner in newly-created hydrogen infrastructure and growth equity funds (note 14). The Corporation has committed to investing £25,000,000 (including £5,665,000 invested as of December 31, 2021) into HyCap. The Corporation has committed to investing €30,000,000 (including €300,000 invested as of December 31, 2021) into Clean H2.

As at December 31, 2021, the Corporation has outstanding commitments aggregating up to a maximum of $22,800,000 relating primarily to purchases of property, plant and equipment.

In connection with the acquisition of intellectual property from UTC in April 2014, the Corporation retains a royalty obligation in certain circumstances to pay UTC a portion of any future intellectual property sale and licensing income generated from certain of the Corporation's intellectual property portfolio for a period of 15 years expiring in April 2029. No royalties were paid to UTC in the years ended December 31, 2021 and December 31, 2020.

The Corporation retains a previous funding obligation to pay royalties of 2% of revenues, to a maximum of $4,613,000 (CDN $5,351,000), on sales of certain fuel cell products for commercial distributed utility applications. As of December 31, 2021, no royalties have been incurred to date for this agreement.

The Corporation also retains a previous funding obligation to pay royalties of 2% of revenues, to a maximum of $1,896,000 (CDN $2,200,000), on sales of certain fuel cell products for commercial transit applications. As of December 31, 2021, no royalties have been incurred to date for this agreement.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

23. Disaggregation of revenue:

The Corporation's operations and main revenue streams are the same as those described in note 4. The Corporation's revenue is derived from contracts with customers.

In the following table, revenue is disaggregated by geographical market, by market application, and by timing of revenue recognition.

	December 31, 2021	December 31, 2020
Geographical markets		
China	$ 38,818	$ 54,267
Europe	42,588	36,484
North America	20,599	9,269
Other	2,500	3,857
	$ 104,505	$ 103,877
Market application		
Heavy Duty Motive	51,663	47,688
Material Handling	8,140	5,310
Back Up Power	8,214	5,602
Technology Solutions	36,488	45,277
	$ 104,505	$ 103,877
Timing of revenue recognition		
Products transferred at a point in time	65,208	56,655
Products and services transferred over time	39,297	47,222
	$ 104,505	$ 103,877

24. Personnel expenses:

Personnel expenses are included in cost of product and service revenues, research and product development expense, general and administrative expense, sales and marketing expense, and other expense.

	December 31, 2021	December 31, 2020
Salaries and employee benefits	$ 84,555	$ 63,392
Share-based compensation (note 21)	9,669	6,228
	$ 94,224	$ 69,620

25. Other operating expense:

	December 31, 2021	December 31, 2020
Net impairment loss on trade receivables	$ 54	$ 60
Impairment loss allowance	—	250
Total impairment loss on trade receivables	54	310
Restructuring costs	156	66
Acquisition related costs (note 7)	2,115	—
	$ 2,325	$ 376

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

25. Other operating expense (cont'd):

For the year ended December 31, 2021, the Corporation recorded a net impairment loss on trade receivables of $54,000 (2020 - $60,000). The impairment loss in 2021 consists of various miscellaneous receivables no longer deemed collectible. In the event that the Corporation recovers any amounts previously recorded as impairment losses, the recovered amount will be recognized as a reversal of the impairment loss in the period of recovery.

For the year ended December 31, 2021, the Corporation recorded an impairment loss allowance of $nil (2020 - $250,000), based on a probability-weighted estimate of credit losses. Information about the Corporation's exposure to credit and market risks, and impairment losses for trade receivables and contract assets is included in note 31.

During 2021, restructuring charges of $156,000 (2020 - $66,000) relate primarily to cost reduction initiatives.

Acquisition related costs of $2,115,000 (2020 - $nil) for the year ended December 31, 2021 consist primarily of other legal, advisory, and transaction related costs incurred on ongoing corporate development activity including the successful acquisition of Arcola (Ballard Motive Solutions), the long-term investment in Forsee Power, and the long-term investment in the HyCap and Clean H2 hydrogen infrastructure and growth equity funds.

26. Finance income and expense:

		2021		2020
Employee future benefit plan expense (note 20)	$	(131)	$	(164)
Pension administration expense		(120)		(110)
Investment income		4,043		1,436
Other income		(300)		(255)
Mark to market and foreign exchange loss on financial assets (notes 14 & 31)		(9,024)		—
Foreign exchange gain (loss)		(1,336)		4,875
Government levies		(1,945)		(1,500)
Finance income and other	$	(8,813)	$	4,282
Finance expense	$	(1,294)	$	(1,303)

27. Income taxes:

(a) Current tax expense:

The components of income tax benefit (expense) included in the determination of the profit (loss) from continuing operations comprise of:

		2021		2020
Current tax expense				
Current period income tax	$	63	$	64
Withholding tax		21		66
Total current tax expense	$	84	$	130
Deferred tax expense				
Origination and reversal of temporary differences	$	(31,581)	$	(24,578)
Adjustments for prior periods		(565)		743
Change in unrecognized deductible temporary differences		31,846		23,835
Total deferred tax expense	$	(300)	$	—
Total income tax expense (recovery) from continuing operations	$	(216)	$	130

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

27. Income taxes (cont'd):

The Corporation's effective income tax rate differs from the combined Canadian federal and provincial statutory income tax rate for companies. The principal factors causing the difference are as follows:

	2021	2020
Net loss before income taxes (from continuing operations)	$ (114,613)	$ (49,339)
Expected tax recovery at 27.00% (2020 – 27.00%)	$ (30,945)	$ (13,322)
Increase (reduction) in income taxes resulting from:		
Non-deductible expenses (non-taxable income)	6,330	(3,001)
Expiry of losses and ITC	64	194
Investment tax credits earned	(3,677)	(3,182)
Foreign tax rate and tax rate differences	3,341	1,668
Change in unrecognized deductible temporary differences	24,651	17,707
Other	20	66
Income taxes (recovery) from continuing operations	$ (216)	$ 130

(b) Recognized deferred tax liabilities:

The components of the Corporation's deferred tax assets and liabilities as at December 31, 2021 are as follows:

	2021	2020
Deferred tax assets		
Losses from operations carried forward	$ 665	$ —
Research and development tax credits	32	—
	$ 697	$ —
Deferred tax liabilities		
Intangible assets	$ (4,275)	—
Deferred tax liabilities	$ (3,578)	$ —

(c) Unrecognized deferred tax asset:

At December 31, 2021, the Corporation did not recognize any deferred tax assets resulting from the following deductible temporary differences for financial statement and income tax purposes.

	2021	2020
Scientific research expenditures	$ 122,742	$ 110,548
Investments	9,357	—
Accrued warranty provision	—	1,619
Share issuance costs	33,100	19,765
Losses from operations carried forward	219,326	151,620
Investment tax credits	42,939	39,052
Property, plant and equipment and intangible assets	217,142	205,074
	$ 644,606	$ 527,678

Deferred tax assets have not been recognized in respect of these deductible temporary differences because it is not currently probable that future taxable profit will be available against which the Corporation can utilize the benefits.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

27. Income taxes (cont'd):

The Corporation has available to carry forward the following as at December 31:

	2021	2020
Canadian scientific research expenditures	$ 122,742	$ 110,548
Canadian losses from operations	131,514	66,306
Canadian investment tax credits	42,939	39,052
German losses from operations for corporate tax purposes	232	457
US federal losses from operations	50,103	47,872
Denmark losses from operations	35,996	33,441
Hong Kong losses from operations	50	36
UK losses from operations	2,659,000	—
UK research and development tax credits	129,000	—

The Canadian scientific research expenditures may be carried forward indefinitely. The Canadian losses from operations may be used to offset future Canadian taxable income and expire over the period from 2031 to 2041.

The German, Hong Kong, Denmark and UK losses from operations may be used to offset future taxable income in Germany, Hong Kong, Denmark and UK for corporate tax and trade tax purposes and may be carried forward indefinitely.

The US federal losses from operations incurred prior to January 1, 2018 may be used to offset future US taxable income and expire over the period from 2021 to 2037 and may be carried forward indefinitely for losses incurred after January 1, 2018.

The Canadian investment tax credits may be used to offset future Canadian income taxes otherwise payable and expire over the period from 2021 to 2041. The UK scientific research and development tax credits may be carried forward indefinitely.

28. Related party transactions:

Related parties include shareholders with a significant ownership interest in the Corporation, including its subsidiaries and affiliates, and the Corporation’s equity accounted investees: Weichai Ballard JV and Synergy Ballard JVCo (note 14).

For the year ended December 31, 2021 and 2020, related party transactions and balances with the Corporation's 49% owned equity accounted investee, Weichai Ballard JV, were as follows:

Balances with related party - Weichai Ballard JV	2021	2020
Trade and other receivables	$ 10,794	$ 17,465
Investments	28,982	27,561
Deferred revenue	2,730	4,712

Transactions during the year with related party - Weichai Ballard JV	2021	2020
Revenues	$ 35,239	$ 44,855

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

28. Related party transactions (cont'd):

For the year ended December 31, 2021 and 2020, related party transactions and balances with the Corporation's 10% owned equity accounted investee, Synergy Ballard JVCo, were as follows:

Balances with related party - Synergy Ballard JVCo		2021		2020
Trade and other receivables	$	99	$	99
Investments		—		—
Deferred revenue		16		304

Transactions during the year with related party - Synergy Ballard JVCo		2021		2020
Revenues	$	3,441	$	8,232

Corporation Directors and Executive Officers

The Corporation provides key management personnel, being board directors and executive officers, certain benefits, in addition to their salaries. Key management personnel also participate in the Corporation’s share-based compensation plans (note 21).

In addition to cash and equity compensation, the Corporation provides the executive officers with certain personal benefits, including car allowance, medical benefit program, long and short-term disability coverage, life insurance and an annual medical, financial planning allowance and relocation allowances and services as necessary.

The employment agreements for the executive officers are substantially the same with slight variations by individual. The maximum obligation that is required to be provided in the event of termination is notice of 12 months plus one month for every year of employment completed with the Corporation (to a maximum of 24 months), or payment in lieu of such notice, consisting of the salary, bonus and other benefits that would have been earned during such notice period. If there is a change of control, and if the executive officer’s employment is terminated, including a constructive dismissal, within 2 years following the date of a change of control, the executive officer is entitled to a payment equivalent to payment in lieu of a 24 month notice period. The minimum obligation that is required is limited to that required by employment standards legislation plus one day for every full month of employment since hire date, with no distinction made for a change of control situation.

Key management personnel compensation is comprised of:

		2021		2020
Salaries and employee benefits	$	3,767	$	3,021
Post-employment retirement benefits		74		62
Share-based compensation (note 21)		2,411		1,530
	$	6,252	$	4,613

29. Supplemental disclosure of cash flow information:

Non-cash financing and investing activities:		2021		2020
Compensatory shares	$	704	$	647

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

30. Operating segments:

The Corporation operates in a single segment, Fuel Cell Products and Services, which consists of the sale and service of PEM fuel cell products for the power product markets of Heavy-Duty Motive (consisting of bus, truck, rail and marine applications), Material Handling and Backup Power, as well as the delivery of Technology Solutions, including engineering services, technology transfer and the licensing and sale of the Corporation's extensive intellectual property portfolio and fundamental knowledge for a variety of fuel cell applications.

The results of Ballard Motive Solutions from the date of acquisition on November 11, 2021 to December 31, 2021, are currently included in the Technology Solutions market.

In 2021, revenues included sales to one individual customer of $35,239,000, which exceeded 10% of total revenue. In 2020, revenues included sales to two individual customers of $44,855,000, and $15,965,000, respectively, which each exceeded 10% of total revenue.

Revenues from continuing operations by geographic area, which are attributed to countries based on customer location for the years ended December 31, are as follows:

Revenues		2021		2020
China	$	38,818	$	54,267
Germany		22,063		23,032
United States		17,536		8,010
United Kingdom		8,968		7,876
Canada		3,063		1,259
Denmark		3,026		1,171
Norway		2,521		436
Belgium		2,121		2,673
France		1,827		1,090
Japan		954		2,695
Spain		926		128
Taiwan		912		1,008
Poland		541		—
India		439		—
Ukraine		244		—
Sweden		129		—
Other countries		417		232
	$	104,505	$	103,877

Non-current assets by geographic area are as follows:

Non-current assets		December 31, 2021		December 31, 2020
Canada	$	157,805	$	88,128
China		29,009		27,577
United Kingdom		17,552		—
United States		4,121		4,107
Denmark		3,270		1,472
	$	211,757	$	121,284

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

31. Financial instruments:

(a) Fair value:

The Corporation's financial instruments consist of cash and cash equivalents, short-term investments, trade and other receivables, investments, and trade and other payables. The fair values of cash and cash equivalents, trade and other receivables, and trade and other payables approximate their carrying values because of the short-term nature of these instruments.

Short-term investments comprise term deposits with terms of greater than 90 days and an investment in a Danish public company held by Ballard Power Systems Europe ("BPSE"). BPSE previously held an investment of approximately $5,000 in a Danish private company, Green Hydrogen Systems A/S which recently issued an initial public offering on the Danish stock exchange in June 2021. On June 17, 2021, BPSE received 259,551 shares in the new publicly-owned investment company (after relinquishing its shares in the previous privately-held company) initially valued at $1,681,000, resulting in investment income of $1,676,000. While held, the fair value of this investment is re-assessed each quarter as per *IFRS 9 Financial Instruments,* with any gain (loss) recognized through finance income (loss) and other. As at December 31, 2021, there was a decrease in the fair value of the investment of $254,000 resulting in net investment income of $1,422,000 for the twelve months ended December 31, 2021. During the three months ended December 31, 2021, the Corporation sold 69,000 Green Hydrogen shares for net proceeds of $336,000 .

Long-term investments comprise newly-created hydrogen infrastructure and growth equity funds: HyCap Fund and Clean H2 Fund, and an investment in Forsee Power, as well as equity-accounted investments. Changes in fair value and foreign exchange adjustments are recognized as gains or losses in the consolidated statement of loss and comprehensive income (loss) and included in finance income (loss) and other (note 14). All gains or losses are unrealized. During the year ended December 31, 2021, the Corporation recognized mark to market and foreign exchange losses of $10,474,000 in its investment in Forsee Power and nominal foreign exchange gains in HyCap Fund and Clean H2 Fund.

Increase (decrease) in fair value due to MTM and foreign exchange	December 31, 2021	December 31, 2020
Short-term investment - Green Hydrogen	$ 1,422	$ —
Long-term investment - Forsee Power	(10,474)	—
Long-term investment - HyCap Fund	26	—
Long-term investment - Clean H2 Fund	2	—
Decrease in fair value of investments	$ (9,024)	$ —

Fair value measurements recognized in the statement of financial position must be categorized in accordance with the following levels:

(i) Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities;

(ii) Level 2: Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices);

(iii) Level 3: Inputs for the asset or liability that are not based on observable market data (unobservable inputs).

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

31. Financial instruments (cont'd):

(b) Financial risk management:

The Corporation primarily has exposure to foreign currency exchange rate risk, commodity risk, interest rate risk, and credit risk.

Foreign currency exchange rate risk

Foreign currency exchange rate risk is the risk that the fair value of deferred cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Corporation is exposed to currency risks primarily due to its holdings of Canadian dollar denominated cash equivalents and its Canadian dollar denominated purchases and accounts payable. Substantially all receivables are denominated in U.S. dollars.

Periodically, the Corporation uses foreign exchange currency contracts to manage exposure to currency rate fluctuations. These contracts are recorded at their fair value as either assets or liabilities on the statement of financial position. Any changes in fair value are either (i) recorded in the statement of comprehensive income if formally designated and qualified under hedge accounting criteria; or (ii) recorded in the statement of loss and comprehensive income (loss) if either not designated, or not qualified, under hedge accounting criteria.The outstanding foreign exchange currency contracts are not qualified under hedge accounting.

The Corporation limits its exposure to foreign currency risk by holding Canadian denominated cash and cash equivalents in amounts up to 100% of forecasted twelve month Canadian dollar net expenditures and up to 50% of the following twelve months of forecasted Canadian dollar net expenditures, thereby creating an economic hedge. Periodically, the Corporation also enters into forward foreign exchange contracts to further limit its exposure. At December 31, 2021, the Corporation held Canadian dollar denominated cash and cash equivalents of CDN $73,524,000 and outstanding forward foreign exchange contracts to buy a total of CDN $26,500,000 in 2021 at an average rate of CDN $1.26 to US $1.00.

The following exchange rates applied during the year ended December 31, 2021:

	$US to $1.00 CDN	$CDN to $1.00 US
January 1, 2021 Opening rate	$0.785	$1.274
December 31, 2021 Closing rate	$0.787	$1.271
Fiscal 2021 Average rate	$0.798	$1.254

Based on cash and cash equivalents and forward foreign exchange contracts held at December 31, 2021, a 10% increase in the Canadian dollar against the U.S. dollar, with all other variables held constant, would result in an increase in foreign exchange gains of approximately $7,871,000 recorded against net income.

If the Canadian dollar weakened 10% against the US dollar, there would be an equal, and opposite impact, on net income. This sensitivity analysis includes foreign currency denominated monetary items, and adjusts their translation at year-end, for a 10% change in foreign currency rates.

Commodity risk

Commodity risk is the risk of financial loss due to fluctuations in commodity prices, in particular, for the price of platinum and palladium, which are key components of the Corporation’s fuel cell products. Platinum and palladium are scarce natural resources and therefore the Corporation is dependent upon a sufficient supply of these commodities. To manage its exposure to commodity price fluctuations, the Corporation may include platinum and or palladium pricing adjustments directly into certain significant customer contracts.

(Tabular amounts expressed in thousands of U.S. dollars, except per share amounts and numbers of shares)

31. Financial instruments (cont'd):

(b) Financial risk management (cont'd):

Interest rate risk

Interest rate risk is the risk that the fair value of deferred cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Corporation is exposed to interest rate risk arising primarily from fluctuations in interest rates on its cash and cash equivalents. The Corporation limits its exposure to interest rate risk by continually monitoring and adjusting portfolio duration to align to forecasted cash requirements and anticipated changes in interest rates.

Based on cash and cash equivalents at December 31, 2021, a 1.0% decline in interest rates, with all other variables held constant, would result in a decrease in investment income of $11,239,000. If interest rates had been 1.0% higher, there would be an equal and opposite impact on net income.

Credit risk

Credit risk is the risk of financial loss to the Corporation if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Corporation's receivables from customers.

IFRS 9 Financial Instruments requires impairment losses to be recognized based on "expected losses" that will occur in the future, incorporating forward looking information relating to defaults and applies a single ECL impairment model that applies to all financial assets within scope. ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the Corporation in accordance with the contract and the cash flows that the Corporation expects to receive). Under *IFRS 9*, at each reporting date the Corporation is required to assess whether financial assets carried at amortized cost are credit-impaired.

Impairment loss on financial assets and contract assets recognized in profit and loss of $54,000 (2020 - $310,000) were comprised of realized impairment loss recognized during the year of $54,000 (2020 - $60,000) and an impairment loss allowance of $nil (2020 - $250,000).

The Corporation's exposure to credit risk is influenced mainly by the individual characteristics of each customer. However, management also considers the factors that may influence the credit risk of its customer base, including the default risk associated with the industry and country in which customers operate. Details of concentration of revenue are included in note 23 and note 30.

The Corporation limits its exposure to credit risk from trade receivables and contract assets by contracting prepayments (from 50% to 100%) from certain customers.

The Corporation determines probability of default based on the following common credit risk characteristics: geographic region, age of customer relationship, and duration of remaining contract. The Corporation calculates probability of default using a forecasted default rate over the next twelve months for the automotive and manufacturing industries, ranging from 0.8% to 1.2%. The Corporation has assessed the probability of default to the higher end of the default range of 1.2% as a result of the COVID-19 pandemic. The loss given default is assumed to be 100% due to the Corporation's position as an unsecured creditor.

The movement in the allowance for impairment in respect of trade receivables and contract assets during the year was as follows.

Impairment loss allowance	December 31, 2021	December 31, 2020
Beginning balance	$ 500	$ 250
Net measurement of loss allowance	—	250
Ending balance	$ 500	$ 500