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

BALLARD POWER SYSTEMS INC.

Years ended December 31, 2022 and 2021

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, 2022. 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, 2022. 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 16, 2023

"PAUL DOBSON"

PAUL DOBSON
Vice President and
Chief Financial Officer
March 16, 2023

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, 2022 and 2021, 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, 2022 and 2021, and 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, 2022, 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 15, 2023 expressed "an unqualified opinion on the effectiveness of the Corporation's internal control over financial reporting".

Change in Accounting Principle

As discussed in Note 3 to the consolidated financial statements, the Corporation has changed its method of accounting for onerous contracts as of January 1, 2022 due to the adoption of *Amendments to IAS 37*.

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.

KPMG LLP is a Canadian limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. KPMG Canada provides services to KPMG LLP.

Critical Audit Matter

The critical audit matter communicated below is the matter arising from the current period audit of the consolidated financial statements that was 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

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 $31,037 thousand for the year ended December 31, 2022.
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 internal controls related to the Corporation's determination of estimated costs to complete long-term fixed-price contracts, including the determination of 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 16, 2023

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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, 2022, 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, 2022, 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, 2022 and 2021, 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 16, 2023 expressed "an unqualified opinion on those consolidated financial statements".

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.

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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 16, 2023

KPMG LLP is a Canadian limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. KPMG Canada provides services to KPMG LLP.

BALLARD POWER SYSTEMS INC.
Consolidated Statements of Financial Position
(Expressed in thousands of U.S. dollars)

	Note	December 31, 2022	December 31, 2021
Assets			
Current assets:			
Cash and cash equivalents		**$ 913,730**	$ 1,123,895
Short-term investments		**2,011**	3,004
Trade and other receivables	9	**48,696**	46,395
Inventories	10	**58,050**	51,518
Prepaid expenses and other current assets		**6,020**	4,374
Total current assets		**1,028,507**	1,229,186
Non-current assets:			
Property, plant and equipment	11	**82,361**	56,061
Intangible assets	12 & 27	**5,214**	20,788
Goodwill	13	**64,268**	64,268
Investments	14	**66,357**	70,292
Other long-term assets		**370**	348
Total assets		**$ 1,247,077**	$ 1,440,943
Liabilities and Equity			
Current liabilities:			
Trade and other payables	16	**$ 40,333**	$ 39,555
Deferred revenue	17	**8,030**	12,109
Provisions and other current liabilities	18	**20,910**	28,257
Current lease liabilities	19	**3,895**	3,238
Total current liabilities		**73,168**	83,159
Non-current liabilities:			
Non-current lease liabilities	19	**11,836**	13,882
Deferred gain on finance lease liability	19	**902**	1,318
Provisions and other non-current liabilities	18	**1,805**	8,895
Employee future benefits	20	**455**	1,894
Deferred income tax liability	29	**—**	3,578
Total liabilities		**88,166**	112,726
Equity:			
Share capital	21	**2,420,396**	2,416,256
Contributed surplus	21	**300,764**	297,819
Accumulated deficit		**(1,560,759)**	(1,387,579)
Foreign currency reserve		**(1,490)**	1,721
Total equity		**1,158,911**	1,328,217
Total liabilities and equity		**$ 1,247,077**	$ 1,440,943

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	2022	2021
Revenues:			
Product and service revenues	23 & 32	**$ 83,786**	$ 104,505
Cost of product and service revenues		**96,881**	90,492
Gross margin		**(13,095)**	14,013
Operating expenses:			
Research and product development		**95,952**	62,162
General and administrative		**28,754**	24,725
Sales and marketing		**12,851**	12,904
Other expense	25	**8,247**	2,325
Total operating expenses		**145,804**	102,116
Results from operating activities		**(158,899)**	(88,103)
Finance loss and other	26	**(2,102)**	(8,813)
Finance expense	26	**(1,279)**	(1,294)
Net finance loss		**(3,381)**	(10,107)
Equity in loss of investment in joint venture and associates	14 & 30	**(11,617)**	(16,140)
Impairment charges on property, plant and equipment	11	**(7)**	(263)
Impairment charges on intangible assets	12 & 27	**(13,017)**	—
Recovery on settlement of contingent consideration	28	**9,891**	—
Loss before income taxes		**(177,030)**	(114,613)
Income tax recovery	29	**3,536**	216
Net loss from continued operations		**(173,494)**	(114,397)
Net income from discontinued operations	8	**—**	164
Net loss		**$ (173,494)**	$ (114,233)
Other comprehensive income (loss):			
Items that will not be reclassified to profit or loss:			
Actuarial gain on defined benefit plans	20	**1,514**	2,170
		1,514	2,170
Items that may be reclassified subsequently to profit or loss:			
Foreign currency translation differences		**(3,211)**	814
		(3,211)	814
Other comprehensive income (loss), net of tax		**(1,697)**	2,984
Total comprehensive loss		**$ (175,191)**	$ (111,249)
Basic and diluted loss per share			
Loss per share		**$ (0.58)**	$ (0.39)
Weighted average number of common shares outstanding		**298,093,270**	295,293,438

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, 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 (notes 7 & 21)	—	—	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 loss:						
Defined benefit plan actuarial gain (note 20)	—	—	—	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
Onerous contracts provision (notes 4 & 18)	—	—	—	(1,200)	—	(1,200)
Restated balance, January 1, 2022	**297,700,295**	**$ 2,416,256**	**$ 297,819**	**$ (1,388,779)**	**$ 1,721**	**$ 1,327,017**
Net loss	**—**	**—**	**—**	**(173,494)**	**—**	**(173,494)**
Deferred share consideration related to acquisition (notes 7 & 21)	**112,451**	**1,762**	**(1,782)**	**—**	**—**	**(20)**
DSUs redeemed (note 21)	**58,990**	**244**	**(997)**	**—**	**—**	**(753)**
RSUs redeemed (note 21)	**217,832**	**785**	**(3,251)**	**—**	**—**	**(2,466)**
Options exercised (note 21)	**304,635**	**1,349**	**(433)**	**—**	**—**	**916**
Share-based compensation (note 21)	**—**	**—**	**9,408**	**—**	**—**	**9,408**
Other comprehensive income (loss):						
Defined benefit plan actuarial gain (note 20)	**—**	**—**	**—**	**1,514**	**—**	**1,514**
Foreign currency translation for foreign operations	**—**	**—**	**—**	**—**	**(3,211)**	**(3,211)**
Balance, December 31, 2022	**298,394,203**	**$ 2,420,396**	**$ 300,764**	**$ (1,560,759)**	**$ (1,490)**	**$ 1,158,911**

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	2022	2021
Cash provided by (used in):			
Operating activities:			
Net loss for the year		**$ (173,494)**	$ (114,233)
Adjustments for:			
Depreciation and amortization		**13,357**	9,752
Impairment loss on trade receivables	25	**73**	54
Unrealized loss on forward contracts		**862**	519
Equity in loss of investment in joint venture and associates	14 & 30	**11,617**	16,140
Net decrease in fair value of investments	14 & 33	**16,877**	9,024
Impairment charges on property, plant and equipment	11	**7**	263
Impairment charges on intangible assets	12 & 27	**13,017**	—
Recovery on settlement of contingent consideration	28	**(9,891)**	—
Accretion (dilution) on decommissioning liabilities		**(73)**	113
Employee future benefits	20	**82**	131
Employee future benefits plan contributions	20	**(7)**	(8)
Share-based compensation	21	**9,408**	9,669
Deferred income tax recovery		**(3,578)**	(300)
		(121,743)	(68,876)
Changes in non-cash working capital:			
Trade and other receivables		**(2,945)**	9,640
Inventories		**(6,532)**	(22,996)
Prepaid expenses and other current assets		**(1,668)**	(810)
Trade and other payables		**2,182**	1,408
Deferred revenue		**(4,079)**	2,221
Warranty provision		**2,614**	(1,063)
		(10,428)	(11,600)
Cash used in operating activities		**(132,171)**	(80,476)
Investing activities:			
Net decrease in short-term investments	33	**1,010**	336
Contributions to long-term investments	14	**(17,913)**	(51,757)
Additions to property, plant and equipment	11	**(33,932)**	(13,158)
Investment in intangible assets	12	**(550)**	(1,543)
Investment in joint venture and associates	14	**(9,272)**	(12,351)
Consideration paid related to acquisition	7 & 28	**(14,900)**	(7,157)
Cash used in investing activities		**(75,557)**	(85,630)
Financing activities:			
Principal payments of lease liabilities	19	**(3,322)**	(2,798)
Net proceeds on issuance of share capital from share option exercises	21	**916**	2,415
Net proceeds on issuance of share capital from equity offering	21	**—**	527,291
Cash provided by (used in) financing activities		**(2,406)**	526,908
Effect of exchange rate fluctuations on cash and cash equivalents held		**(31)**	(337)
Increase (decrease) in cash and cash equivalents		**(210,165)**	360,465
Cash and cash equivalents, beginning of year		**1,123,895**	763,430
Cash and cash equivalents, end of year		**$ 913,730**	$ 1,123,895

Supplemental disclosure of cash flow information (note 31). See accompanying notes to consolidated financial statements.

1. Reporting entity:

The principal business of Ballard Power Systems Inc. (the “Corporation”) is the design, development, manufacture, sale and service of proton exchange membrane ("PEM") fuel cell products for a variety of applications, focusing on the power product markets of Heavy-Duty Motive (consisting of bus, truck, rail and marine applications), Material Handling and Stationary Power Generation, as well as the delivery of Technology Solutions, including engineering services, technology transfer, and the license and sale of the Corporation's extensive intellectual property portfolio and fundamental knowledge for a variety of PEM 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, 2022 and 2021 comprise the Corporation and its subsidiaries (note 4(a)).

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 16, 2023.

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.

(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, and employee future benefits. These estimates and judgments are discussed further in note 5.

2. Basis of preparation (cont'd):

(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 achieve its liquidity objective. 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 cash operating expenses, managing working capital and capital expenditure 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.

The Corporation has initially adopted *Onerous Contracts – Cost of Fulfilling a Contract (Amendments to IAS 37),* effective January 1, 2022.

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.

On completion of a review of the Corporation's "open" contracts as of December 31, 2021, it was determined that on adoption of the *Amendments to IAS 37* on January 1, 202*2*, additional onerous contract costs of $ 1,200,000 were recognized as an opening balance adjustment to accumulated deficit. As of December 31, 2022, total onerous contract cost provisions of $4,400,000 have been accrued in provisions and other current liabilities.

A number of new standards and interpretations became effective from January 1, 2022 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.

(a) Basis of consolidation:

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

	Percentage ownership	
	2022	2021
Ballard Motive Solutions	100 %	100 %
Guangzhou Ballard Power Systems Co., Ltd.	100 %	100 %
Ballard Power Systems Europe A/S	100 %	100 %
Ballard Hong Kong Ltd.	100 %	100 %
Ballard US Inc.	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 Ballard Motive Solutions (formerly Arcola Energy Limited), a UK-based systems engineering company specializing in hydrogen fuel cell systems and powertrain integration.

(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), 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 this subsidiary (note 8). The entity will remain held by the Corporation and has been re-named Ballard US Inc.

Equity Investment Entities

The Corporation also has a non-controlling, 49% interest (2021 - 49%), in Weichai Ballard Hy-Energy Technologies Co., Ltd ("Weichai Ballard JV") and a non-controlling, 10% interest (2021 - 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"), established a joint venture company, Weichai Ballard Hy-Energy Technologies Co., Ltd. ("Weichai Ballard JV"), in Shandong province to support China's fuel cell electric vehicle market, with Weichai Power ("Weichai") holding a controlling ownership interest of 51% and the Corporation holding a non-controlling 49% ownership position. Weichai Ballard JV's business is to manufacture fuel cell products utilizing the Corporation's liquid-cooled fuel cell stack ("LCS") and LCS-based power modules for bus, commercial truck and forklift applications with certain exclusive rights in China.

During the years 2018 through 2022, Weichai has made all of its committed capital contributions totaling RMB 561,000,000 and the Corporation has made all of its committed capital contributions totaling RMB 539,000,000 ($79,369,000). Weichai holds three of five Weichai Ballard JV board seats and Ballard holds two, with Ballard 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, established a joint venture company, Guangdong Synergy Hydrogen Power Co., Ltd (“Synergy Ballard JVCo”), located in Guangdong province in China. 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 and sold in China.

The Corporation holds a non-controlling 10% interest in the joint venture, Synergy Ballard JVCo, together with Guangdong Nation Synergy Hydrogen Power Technology Co., Ltd. (a member of the “Synergy Group”) who holds a controlling 90% interest. 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.

4. Significant accounting policies (cont'd):

(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 de-recognizes 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.

(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.

4. Significant accounting policies (cont'd):

(c) Financial instruments (cont'd):

(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):

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 measures 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 (cont'd):

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) 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.

(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* (the "2020 amendments"), to clarify the classification of liabilities as current or non-current. On October 31, 2022, the IASB issued *Non-current Liabilities with Covenants (Amendments to IAS 1)* (the "2022 amendments"), to improve the information a company provides about long-term debt with covenants.

For the purposes of non-current classification, the 2020 amendments and the 2022 amendments (collectively "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 reconfirmed that only covenants with which a company must comply on or before the reporting date affect the classification of a liability as current or non-current. Covenants with which a company must comply after the reporting date do not affect a liability's classification at that date. 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, 2024. Early adoption is permitted. A company that applies the 2020 amendments early is required to also apply the 2022 amendments. 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 *Amendments to IAS 8* is not expected to have a material impact on the Corporation's financial statements.

(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* is not expected to have a material impact on the Corporation's financial statements.

7. Acquisition:

On November 11, 2021, the Corporation acquired Ballard Motive Solutions (formerly Arcola Energy Limited), a UK-based systems engineering company specializing in hydrogen fuel cell systems and powertrain integration. The Corporation acquired 100% of Arcola for total consideration of up to $40,000,000, consisting of up-front net cash consideration of $ 7,157,000, and including 337,353 shares of the Corporation with an acquisition date fair value of approximately $4,851,000 (112,451 shares issued as of December 31, 2022) that vest over a two year period from the acquisition date, and $ 26,258,000 in earn-out cash contingent consideration ($ 14,900,000 paid as of December 31, 2022) 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 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 Ballard Motive Solutions as the accounting acquiree. As the accounting acquirer, consideration given by the Corporation to acquire Ballard Motive Solutions had been allocated to the assets acquired, and the liabilities assumed, based on their fair values as of the acquisition date of November 11, 2021.

As consideration for the transaction: (i) the Corporation paid cash and assumed and paid certain of 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 (first tranche of 112,451 shares issued as of December 31, 2022) 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 ($ 14,900,000 paid as of December 31, 2022) 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 fair value of purchase consideration was 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 of Purchase Consideration	**$**	**39,197**

7. Acquisition (cont'd):

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 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 fair value of each asset and liability as of the acquisition date of November 11, 2021.

The 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 of Assets Acquired and Liabilities Assumed	**$**	**39,197**

The 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, had been assessed at their respective carrying amounts on November 11, 2021, which was 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 Ballard Motive Solutions' operating facilities in the UK. As there was 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 Property Plant and Equipment*. 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 was considered to approximately equate to its carrying amount.
- Acquired identified intangible assets consisted of technology (patents, know-how and in-process research and development), customer contracts and relationships, and non-compete arrangement. The Corporation concluded that each of the identified intangible assets met the definition of an identified intangible asset (or non-monetary asset without physical substance) under *IAS 38 Intangible Assets* as the acquired IP met the definition of an asset and was identifiable. The fair value of all identified intangible assets included a fair value adjustment of $17,279,000 from their original carrying amounts.

7. Acquisition (cont'd):

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

			Useful life in yrs
Technology (patents, know-how and in-process research & development)	$	15,976	12
Customer contracts and relationships		1,048	7
Non-compete arrangement		255	3
Fair Value of Identified Intangible Assets	$	17,279	

The 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 had 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.
- The fair value of the acquired customer contracts and relationships totaling $ 1,048,000 had 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 and 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 represented 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 UK tax rate of 25.0%.

The remaining unallocated $23,991,000 of the total purchase price consideration of $ 39,197,000 had 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 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 was $138,000 and ($ 1,114,000), respectively.

The following table presents the unaudited pro forma results of 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 purchase price allocation; and income tax recovery on deferred income tax liability arising from the purchase price allocation.

7. Acquisition (cont'd):

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

Acquisition costs of $463,000 (2021 - $1,170,000) were incurred a result of this transaction, and are recognized in other operating expense.

Subsequent to the acquisition, the Corporation re-evaluated the business model of Ballard Motive Solutions and made certain restructuring changes to its operations.

As a result of the post-acquisition restructuring of Ballard Motive Solutions' operations during the year ended December 31, 2022, the Corporation recognized a net charge to restructuring costs of $4,835,000 (note 25) consisting primarily of contract exit and modification costs, grant adjustment charges, personnel change costs, and legal and advisory costs, net of expected recoveries; recovery on settlement of contingent consideration of $9,891,000 (note 28) related to the cancellation of certain contingent and outstanding cash milestones no longer payable; and intangible asset impairment of $13,017,000 (note 27) consisting of a write-down of acquired technology, customer contracts, and non-compete intangible assets to their estimated fair value of $2,500,000.

8. Discontinued operations:

On October 14, 2020, the Corporation completed an agreement to sell certain remaining business assets of its subsidiary, Ballard Unmanned Systems, which has been classified and accounted for as a discontinued operation. The historic operating results of this business for 2021 have been removed from continued operating results and are instead presented separately in the statements of loss and comprehensive income (loss) as net income from discontinued operations.

9. Trade and other receivables:

	December 31, 2022	December 31, 2021
Trade accounts receivable	$ 25,812	$ 19,423
Other receivables	10,103	6,586
Contract assets	12,781	20,386
	$ 48,696	$ 46,395

Contract assets

Contract assets primarily relate to the Corporation's rights to consideration for work completed but not billed as at December 31, 2022 for engineering services and technology transfer services.

Contract assets	December 31, 2022
At January 1, 2022	$ 20,386
Additions to contract assets	13,306
Invoiced during the year	(20,911)
At December 31, 2022	$ 12,781

Information about the Corporation's exposure to credit and market risks, and impairment losses for trade receivables and contract assets is included in note 33.

10. Inventories:

	December 31, 2022	December 31, 2021
Raw materials and consumables	$ 29,016	$ 22,395
Work-in-progress	17,171	19,795
Finished goods	8,502	5,350
Service inventory	3,361	3,978
	$ 58,050	$ 51,518

In 2022, the amount of raw materials and consumables, finished goods and work-in-progress recognized as cost of product and service revenues amounted to $68,870,000 (2021 - $60,803,000).

In 2022, the write-down of inventories to net realizable value amounted to $ 5,762,000 (2021 - $1,246,000) and the reversal of previously recorded write-downs amounted to $589,000 (2021 - $136,000), resulting in a net write-down of $ 5,173,000 (2021 - $1,110,000). 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, 2022	December 31, 2021
Property, plant and equipment owned	$ 70,344	$ 43,855
Right-of-use assets	12,017	12,206
	$ 82,361	$ 56,061

Property, plant and equipment owned:

Net carrying amounts	December 31, 2022	December 31, 2021
Computer equipment	$ 1,207	$ 1,599
Furniture and fixtures	1,323	762
Leasehold improvements	1,550	1,518
Production and test equipment	66,264	39,976
	$ 70,344	$ 43,855

Cost	December 31, 2021	Additions	Impairment	Transfers	Effect of movements in exchange rates	December 31, 2022
Computer equipment	$ 6,852	$ 181	$ —	$ (290)	$ (2)	$ 6,741
Furniture and fixtures	1,914	700	—	(208)	—	2,406
Leasehold improvements	9,450	388	—	(185)	(3)	9,650
Production and test equipment	77,644	32,663	(7)	(1,109)	11	109,202
	$ 95,860	$ 33,932	$ (7)	$ (1,792)	$ 6	$ 127,999

During the year ended December 31, 2022, an impairment loss of $ 7,000 (2021 - $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.

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

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

Accumulated depreciation	December 31, 2021	Depreciation	Transfers	Effect of movements in exchange rates	December 31, 2022
Computer equipment	$ 5,253	$ 574	$ (290)	$ (3)	$ 5,534
Furniture and fixtures	1,152	139	(208)	—	1,083
Leasehold improvements	7,932	353	(185)	—	8,100
Production and test equipment	37,668	6,368	(1,109)	11	42,938
	$ 52,005	$ 7,434	$ (1,792)	$ 8	$ 57,655

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 related to the acquisition of Ballard Motive Solutions on November 11, 2021.

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

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).

Net carrying amounts	December 31, 2022	December 31, 2021
Property	$ 11,487	$ 11,837
Equipment	116	139
Vehicle	414	230
	$ 12,017	$ 12,206

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

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

Cost	December 31, 2021	Additions	De-recognition	Transfer	Effect of movements in exchange rates	December 31, 2022
Property	$ 26,427	$ 2,746	$ —	$ (341)	$ 12	$ 28,844
Equipment	175	13	—	—	—	188
Vehicle	372	290	(25)	—	—	637
	$ 26,974	$ 3,049	$ (25)	$ (341)	$ 12	$ 29,669

Accumulated depreciation	December 31, 2021	Depreciation	De-recognition	Transfer	Effect of movements in exchange rates	December 31, 2022
Property	$ 14,590	$ 3,108	$ —	$ (341)	$ —	$ 17,357
Equipment	36	36	—	—	—	72
Vehicle	142	87	(6)	—	—	223
	$ 14,768	$ 3,231	$ (6)	$ (341)	$ —	$ 17,652

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 related to the acquisition of Ballard Motive Solutions on November 11, 2021.

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

12. Intangible assets:

	December 31, 2022	December 31, 2021
Intellectual property acquired from UTC	$ —	$ 74
ERP management reporting software system	2,714	3,631
Intellectual property acquired from Ballard Motive Solutions (notes 7 and 27)	2,500	17,083
	$ 5,214	$ 20,788

12. Intangible assets (cont'd):

	Cost	Accumulated amortization	Net carrying amount
At January 1, 2021	$ 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
Additions to intangible assets	550	—	550
Amortization expense	—	3,107	(3,107)
Impairment on intangible assets (note 27)	—	13,017	(13,017)
At December 31, 2022	$ 79,227	$ 74,013	$ 5,214

Acquisition of intangible assets of $ 17,279,000 in 2021 related to the acquisition of Ballard Motive Solutions. During the year ended December 31, 2022, impairment charges of $13,017,000 were recognized primarily as a result of the post-acquisition restructuring of operations at Ballard Motive Solutions (notes 7 and 27).

Additions to intangible assets in 2022 of $ 550,000 (2021 - $1,543,000) consist primarily of costs to 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. During the year ended December 31, 2022, amortization of $3,107,000 (2021 - $1,798,000) 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 32).

As of December 31, 2022, the aggregate carrying amount of the Corporation's goodwill is $ 64,268,000 (2021 - $64,268,000).

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, 2022 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, 2022, indicating that no goodwill impairment charge is required for 2022 ($ nil in 2021).

14. Investments:

	December 31, 2022	December 31, 2021
Investment in Weichai Ballard JV (note 4)	$ 24,026	$ 28,982
Investment in Synergy Ballard JVCo (note 4)	—	—
Investment in Forsee Power	18,470	33,335
Investment in Wisdom Motor	10,000	—
Investment in Quantron AG	5,333	—
Investment in HyCap Fund I SCSp	7,963	7,636
Investment in CleanH2 Fund	565	339
	$ 66,357	$ 70,292

For the year ended December 31, 2022, the Corporation recorded $11,617,000 (2021 - $16,140,000) in equity loss of investment in JV and associates, consisting of equity loss in Weichai Ballard JV of $11,599,000 (2021 - $16,084,000) and equity loss in Synergy Ballard JVCo of $18,000 (2021 - $56,000).

Investment in Weichai Ballard JV

Investment in Weichai Ballard JV	December 31, 2022	December 31, 2021
Beginning balance	$ 28,982	$ 27,561
Capital contribution to JV	9,272	12,351
Recognition of 49% profit on inventory not yet sold to third party, net	549	3,909
Equity in loss	(11,599)	(16,084)
Cumulative translation adjustment due to foreign exchange	(3,178)	1,245
Ending balance	$ 24,026	$ 28,982

Weichai Ballard JV is an associate in which the Corporation has significant influence and a 49% ownership interest. During the year ended December 31, 2022, the Corporation made committed capital contributions of $9,272,000 (RMB 62,475,000 equivalent) (2021 - $12,351,000 (RMB 79,625,000 equivalent)) to Weichai Ballard JV. At December 31, 2022, as specified in the Equity Joint Venture Agreement, the Corporation has fulfilled its capital contribution commitments to Weichai Ballard JV.

The following tables summarize the financial information of Weichai Ballard JV as included in its own financial statements as of December 31, 2022, adjusted for foreign exchange differences, the application of the Corporation's accounting policies, and the Corporation's incorporation costs.

	December 31, 2022	December 31, 2021
Percentage ownership interest (49%)		
Current assets	$ 80,088	$ 104,907
Non-current assets	2,618	2,339
Current liabilities	(23,460)	(36,385)
Non-current liabilities	(2,314)	(2,861)
Net assets (100%)	56,932	68,000
Corporation's share of net assets (49%)	27,895	33,320
Incorporation costs	324	324
Elimination of unrealized profit on downstream sales, net of sale to third party	(4,193)	(4,662)
Carrying amount of investment in Weichai Ballard JV	$ 24,026	$ 28,982

14. Investments:

Investment in Weichai Ballard JV (cont'd)

	December 31, 2022	December 31, 2021
Revenue (100%)	$ 6,476	$ 38,260
Net loss (100%)	23,672	32,825
Corporation's share of net loss (49%)	$ 11,599	$ 16,084

Investment in Synergy Ballard JVCo

Investment in Synergy Ballard JVCo	December 31, 2022	December 31, 2021
Beginning balance	$ —	$ —
Recognition of 10% profit on inventory sold to third party, net	18	56
Equity in loss	(18)	(56)
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, 2022, the Corporation made committed capital contributions of $nil (2021 - $nil) to Synergy Ballard JVCo.

Other Long-term Investments

In addition to the above equity-accounted investments, the Corporation has also acquired ownership interest in various other investments.

Net carrying value	December 31, 2021	Contributions	Change in Fair Value	December 31, 2022
Long-term investment - Forsee Power	$ 33,335	$ —	$ (14,865)	$ 18,470
Long-term investment - Wisdom Motor	—	10,000	—	10,000
Long-term investment - Quantron AG	—	5,183	150	5,333
Long-term investment - HyCap Fund	7,636	1,924	(1,597)	7,963
Long-term investment - Clean H2 Fund	339	806	(580)	565
	$ 41,310	$ 17,913	$ (16,892)	$ 42,331

Net carrying value	December 31, 2020	Contributions	Change in Fair Value	December 31, 2021
Long-term investment - Forsee Power	$ —	$ 43,809	$ (10,474)	$ 33,335
Long-term investment - HyCap Fund	—	7,610	26	7,636
Long-term investment - Clean H2 Fund	—	338	1	339
	$ —	$ 51,757	$ (10,447)	$ 41,310

During the year ended December 31, 2022, changes in fair value and foreign exchange adjustments for long -term investments totalling $16,877,000 (2021 -$9,025,000) were comprised of decreases in long-term investments of $ 16,892,000 (2021 - $10,447,000) offset by increases in short-term investments of $15,000 (2021 -$1,422,000) and were recognized as an unrealized loss in the consolidated statements of loss and comprehensive income (loss) and included in finance loss and other (notes 26 and 33).

14. Investments (cont'd):

Investment in Forsee Power

In October 2021, the Corporation acquired a non-controlling 9.77% equity interest in Forsee Power SA ("Forsee Power"), a French company specializing in the design, development, manufacture, commercialization, and financing of smart battery systems for sustainable electric transport.

During the year ended December 31, 2022, changes in fair value and foreign exchange adjustments totalling $(14,865,000) (2021 - $(10,474,000)) were recognized as an unrealized loss in the consolidated statements of loss and comprehensive income (loss) and included in finance loss and other (notes 26 and 33), resulting in net fair value investment in Forsee Power of $18,470,000 as of December 31, 2022 (2021 - $33,335,000).

Investment in Wisdom Motor

In June 2022, the Corporation invested $10,000,000 and acquired a non-controlling 7.169% interest in Wisdom Group Holdings Ltd. ("Wisdom Motor"), a Cayman Island holding company with operating subsidiaries whose business includes the design and manufacture of vehicles, including zero emission fuel cell electric buses, trucks, and battery-electric vehicles.

During the year ended December 31, 2022, changes in fair value totalling $nil were recognized in the consolidated statements of loss and comprehensive income (loss), resulting in net fair value investment in Wisdom Motor of $10,000,000 as of December 31, 2022.

Investment in Quantron AG

In September 2022, the Corporation invested € 5,000,000 and acquired a non-controlling 1.89% in Quantron AG, a global electric vehicle integrator and an emerging specialty OEM, to accelerate fuel cell truck adoption.

During the year ended December 31, 2022, changes in foreign exchange adjustments totalling $ 150,000 were recognized as an unrealized gain in the consolidated statements of loss and comprehensive income (loss) and included in finance loss and other (notes 26 and 33), resulting in net fair value investment in Quantron AG of $5,333,000 as of December 31, 2022.

Investment in Hydrogen Funds

The Corporation has invested in two hydrogen infrastructure and growth equity funds.

HyCap Fund

In August 2021, the Corporation invested in HyCap Fund I SCSp (“HyCap”), a special limited partnership registered in Luxembourg. During the year ended December 31, 2022, the Corporation made additional contributions of £1,550,000 ($1,924,000) (2021 - £5,665,000 ($7,610,000)) for total contributions of £7,215,000 ($9,534,000).

During the year ended December 31, 2022, changes in fair value and foreign exchange adjustments totalling $(1,597,000) (2021 - $26,000) were recognized as an unrealized loss in the consolidated statements of loss and comprehensive income(loss) and included in finance loss and other (notes 26 and 33), resulting in net fair value investment in HyCap of $7,963,000 as of December 31, 2022 (2021 - $ 7,636,000).

Clean H2 Infrastructure Fund

In December 2021, the Corporation invested in Clean H2 Infrastructure Fund I ("Clean H2"), a special limited partnership registered in France. During the year ended December 31, 2022, the Corporation made additional contributions of €696,000 ($806,000) (2021 - €300,000 ($338,000)) for total contributions of € 996,000 ($1,144,000).

14. Investments (cont'd):

Investment in Hydrogen Funds (cont'd)

Clean H2 Infrastructure Fund (cont'd)

During the year ended December 31, 2022, changes in fair value and foreign exchange adjustments totalling $(580,000) (2021 - $1,000) were recognized as an unrealized loss in the consolidated statements of loss and comprehensive income (loss) and included in finance loss and other (notes 26 and 33), resulting in net fair value investment in Clean H2 of $565,000 as of December 31, 2022 (2021 - $ 339,000).

15. Bank facilities:

The Corporation has the following bank facilities available to it.

Letter of Guarantee Facility

The Corporation has a Letter of Guarantee 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 credits on the Corporation's behalf from time to time up to a maximum of $2,000,000.

At December 31, 2022, $nil (2021 - $nil) was outstanding on the LG Facility.

Foreign Exchange Facility

The Corporation also has a $25,000,000 Foreign Exchange Facility ("FX Facility") that enables the Corporation to enter into foreign exchange currency contracts (at face value amounts in excess of the FX facility) secured by a guarantee from Export Development Canada.

At December 31, 2022, the Corporation had outstanding foreign exchange currency contracts to purchase a total of CDN $ 38,000,000 (2021 – CDN $26,500,000) at an average rate of 1.31 CDN per U.S. dollar, resulting in an unrealized loss of CDN $ 1,201,000 at December 31, 2022 (2021 – $33,000). The unrealized loss on forward foreign exchange contracts is presented in prepaid expenses and other current assets on the statement of financial position.

16. Trade and other payables:

	December 31, 2022	December 31, 2021
Trade accounts payable	$ 20,440	$ 13,689
Compensation payable	13,248	15,830
Other liabilities	6,059	9,130
Taxes payable	586	906
	$ 40,333	$ 39,555

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, 2022	December 31, 2021
Beginning Balance	$ 12,109	$ 9,888
Additions to deferred revenue	21,650	23,618
Revenue recognized during the year	(25,729)	(21,397)
Ending Balance	$ 8,030	$ 12,109

18. Provisions and other liabilities:

Balance	Restructuring provision	Warranty provision	Onerous contracts	Contingent consideration	Legal provision	Other liabilities	Total
At January 1, 2021	$ 10	$ 9,625	$ —	$ —	$ —	$ 1,764	$ 11,399
Provisions made during year	131	4,102	300	26,258	—	109	30,900
Provisions used/paid during year	(136)	(3,894)	—	—	—	—	(4,030)
Provisions reversed/expired during 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
Opening retained earnings adjustment (note 3)	—	—	1,200	—	—	—	1,200
Provisions made during year	455	5,851	2,900	—	2,968	45	12,219
Provisions used/paid during year	(320)	(2,391)	—	(14,900)	—	—	(17,611)
Provisions reversed/expired during year	—	(860)	—	(9,280)	—	—	(10,140)
Effect of movements in exchange rates	(3)	15	—	—	—	(117)	(105)
At December 31, 2022	$ 137	$ 11,327	$ 4,400	$ 2,078	$ 2,968	$ 1,805	$ 22,715

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

At December 31, 2022							
Current	$ 137	$ 11,327	$ 4,400	$ 2,078	$ 2,968	$ —	$ 20,910
Non-current	—	—	—	—	—	1,805	1,805
	$ 137	$ 11,327	$ 4,400	$ 2,078	$ 2,968	$ 1,805	$ 22,715

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 $5,851,000 (2021 - $4,102,000), comprised of $4,580,000 (2021 - $2,711,000) related to new product sales and $1,271,000 (2021 - $1,391,000) related to upward warranty adjustments. This was offset by warranty expenditures of $2,391,000 (2021 - $3,894,000) and downward warranty adjustments of $860,000 (2021 - $1,112,000), due primarily to contractual expirations and changes in estimated and actual costs to repair. As of December 31, 2022, total warranty provision of $11,327,000 has been accrued in provisions and other current liabilities.

Onerous Contracts

On completion of a review of the Corporation's "open" contracts as of December 31, 2021, it was determined that on adoption of the *Amendments to IAS 37* on January 1, 2022, additional onerous contract costs of $1,200,000 were recognized as an opening balance adjustment to accumulated deficit. As of December 31, 2022, total onerous contract costs of $4,400,000 have been accrued in provisions and other current liabilities.

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

Onerous Contracts (cont'd)

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 Ballard Motive Solutions in November 2021 (note 7), total consideration included 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. As part of the post-acquisition restructuring of operations at Ballard Motive Solutions in the UK, there was a change in estimate in the fair value of contingent consideration due to changes in expectation of achieving milestones. During the year ended December 31, 2022, the Corporation recognized a recovery of expected contingent consideration no longer payable of $9,891,000, consisting of the cancellation of certain milestones. The contingent consideration provision now comprises the last remaining milestone at its estimated value of $2,078,000.

During the year ended December 31, 2022, cash payments of $ 14,900,000 were made by the Corporation upon successful achievement of certain performance milestones.

Legal provision

As part of the post-acquisition restructuring of operations at Ballard Motive Solutions in the UK (note 7), the Corporation recorded a legal provision for various contract exit and modification costs, grant adjustment charges, and legal and advisory costs, net of expected recoveries. As at December 31, 2022, costs totalling $2,968,000 were accrued in other operating expense (note 25).

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 3.41% per annum (2021 – 1.25%).

The Corporation performed an assessment of the estimated cash flows required to settle the obligations for the building as of December 31, 2022. Based on the assessment, an increase of $nil in the provision (2021 - $65,000) was recorded against decommissioning liabilities, in addition to accretion costs of $44,000 (2021 - $44,000) and offset by the effect of movements in exchange rates of $(117,000) (2021 - $4,000).

Other liabilities: Decommissioning liabilities (cont'd)

The net discounted amount of estimated cash flows required to settle the obligation for the building is $ 1,805,000 (2021 - $1,877,000) 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 2.95% to 8.28% per annum and expire between January 2023 and June 2032.

	December 31, 2022	December 31, 2021
Property	$ 3,743	$ 3,117
Equipment	39	38
Vehicle	113	83
Lease Liability, Current	$ 3,895	$ 3,238
Property	$ 11,505	$ 13,647
Equipment	73	105
Vehicle	258	130
Lease Liability, Non-current	$ 11,836	$ 13,882
Lease Liability	$ 15,731	$ 17,120

The Corporation is committed to minimum lease payments as follows:

Maturity Analysis	December 31, 2022
Less than one year	$ 4,854
Between one and five years	12,794
More than five years	548
Total undiscounted lease liabilities	$ 18,196

During the year ended December 31, 2022, the Corporation made principal payments on its lease liabilities of $ 3,322,000 (2021 - $2,798,000).

Deferred gains were also recorded on closing of the finance lease agreement and are amortized over the lease term. At December 31, 2022, the outstanding deferred gain was $902,000 (2021 – $1,318,000).

20. Employee future benefits:

	December 31, 2022	December 31, 2021
Net defined benefit pension plan liability	$ 348	$ 1,814
Net other post-retirement benefit plan liability	107	80
Employee future benefits	$ 455	$ 1,894

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.

20. Employee future benefits (cont'd):

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, 2022. The next actuarial valuation of the employee future benefit plans for funding purposes is expected to be performed as of January 1, 2023.

The Corporation expects contributions of $ nil to be paid to its defined benefit plans in 2023.

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 loss and other (note 26).

	Defined benefit obligation		Fair value of plan assets		Net defined benefit liability	
Defined benefit pension plan	**2022**	2021	**2022**	2021	**2022**	2021
Balance at January 1	**$ 19,187**	$ 20,203	**$ (17,373)**	$ (16,347)	**$ 1,814**	$ 3,856
Included in profit or loss						
Current service cost	**30**	37	**—**	—	**30**	37
Interest cost (income)	**518**	476	**(468)**	(383)	**50**	93
Benefits payable	**—**	—	**—**	—	**—**	—
	548	513	**(468)**	(383)	**80**	130
Included in other comprehensive income						
Remeasurements loss (gain):						
Actuarial loss (gain) arising from:						
Demographic assumptions	**—**	56	**—**	—	**—**	56
Financial assumptions	**(4,547)**	(986)	**—**	—	**(4,547)**	(986)
Experience adjustment	**(91)**	92	**—**	—	**(91)**	92
Return on plan assets excluding interest income	**—**	—	**3,092**	(1,334)	**3,092**	(1,334)
Plan expenses	**(24)**	(30)	**24**	30	**—**	—
	(4,662)	(868)	**3,116**	(1,304)	**(1,546)**	(2,172)
Other						
Contributions paid by the employer	**—**	—	**—**	—	**—**	—
Benefits paid	**(671)**	(661)	**671**	661	**—**	—
	(671)	(661)	**671**	661	**—**	—
Balance at December 31	**$ 14,402**	$ 19,187	**$ (14,054)**	$ (17,373)	**$ 348**	$ 1,814

20. Employee future benefits (cont'd):

	Defined benefit obligation		Fair value of plan assets		Net defined benefit liability	
Other post-retirement benefit plan	**2022**	2021	**2022**	2021	**2022**	2021
Balance at January 1	**$ 80**	$ 85	**$ —**	$ —	**$ 80**	$ 85
Included in profit or loss						
Interest cost (income)	**2**	1	**—**	—	**2**	1
	2	1	**—**	—	**2**	1
Included in other comprehensive income						
Remeasurements loss (gain):						
Actuarial loss (gain) arising from:						
Demographic assumptions	**—**	—	**—**	—	**—**	—
Financial assumptions	**(23)**	(2)	**—**	—	**(23)**	(2)
Experience adjustment	**55**	4	**—**	—	**55**	4
	32	2	**—**	—	**32**	2
Other						
Contributions paid by the employer	**—**	—	**(7)**	(8)	**(7)**	(8)
Benefits paid	**(7)**	(8)	**7**	8	**—**	—
	(7)	(8)	**—**	—	**(7)**	(8)
Balance at December 31	**$ 107**	$ 80	**$ —**	$ —	**$ 107**	$ 80

Included in other comprehensive income (loss)	December 31, 2022	December 31, 2021
Defined benefit pension plan actuarial gain	$ 1,546	$ 2,172
Other post-retirement benefit plan actuarial loss	(32)	(2)
	$ 1,514	$ 2,170

Pension plan assets comprise:

	2022	2021
Cash and cash equivalents	3 %	3 %
Equity securities	60 %	60 %
Debt securities	37 %	37 %
Total	100 %	100 %

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

	2022		2021	
	Pension plan	Other benefit plan	Pension plan	Other benefit plan
Discount rate	5.00 %	4.89 %	2.76 %	2.25 %
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:

	2022		2021	
	Pension plan	Other benefit plan	Pension plan	Other benefit plan
Discount rate	2.76 %	4.89 %	2.40 %	2.25 %
Rate of compensation increase	n/a	n/a	n/a	n/a

20. Employee future benefits (cont'd):

Impacts of assumed health care cost trend rates applicable to the other post-retirement benefit plan at December 31, 2022 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, 2022	December 31, 2021
Option Expense	$ 6,101	$ 6,093
DSU Expense	529	672
RSU Expense	2,778	2,904
Total share-based compensation	$ 9,408	$ 9,669

(a) Share capital:

Upon acquisition of Ballard Motive Solutions in November 2021 (note 7), part of the total consideration of $ 39,917,000 included the issuance of 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.

During the year ended December 31, 2022, the Corporation issued the first tranche of 112,451 common shares with a fair value of $1,782,000 as per the acquisition date, offset by miscellaneous deferred financing costs of $ 20,000.

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 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, 2022, 298,394,203 (2021 - 297,700,295) 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.

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, 2021	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	8.70
Options granted	1,263,685	8.97
Options exercised	(304,635)	2.87
Options forfeited	(184,496)	12.75
Options expired	(8,501)	2.20
At December 31, 2022	4,807,620	$ 9.00

The following table summarizes information about the Corporation's share options outstanding as at December 31, 2022:

	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
$1.33 - $3.06	1,174,815	2.6	$ 2.69	1,174,815	$ 2.69
$3.56 - $5.50	484,493	3.3	4.04	389,085	3.68
$6.92 - $10.64	2,226,069	5.2	9.87	721,156	10.51
$12.63 - $26.13	922,243	5.1	17.53	455,966	16.66
	4,807,620	4.3	$ 9.00	2,741,022	$ 7.21

During 2022, compensation expense of $6,101,000 (2021 – $6,093,000) was recorded in net loss based on the grant date fair value of the awards recognized over the vesting period.

During 2022, 304,635 options were exercised for an equal amount of common shares for proceeds of $ 916,000. During 2021, 549,281 options were exercised for an equal amount of common shares for proceeds of $2,415,000.

During 2022, options to purchase 1,263,685 common shares were granted with a weighted average fair value of $ 4.92 (2021 – 540,116 options and $10.76 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:

	2022	2021
Expected life	4 years	4 years
Expected dividends	Nil	Nil
Expected volatility	69 %	67 %
Risk-free interest rate	2 %	1 %

As at December 31, 2022, options to purchase 4,807,620 common shares were outstanding (2021 – 4,041,567).

21. Equity (cont'd):

(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, 2022, there were 18,844,127 (2021 – 19,540,514) shares available to be issued under this plan.

During 2021 and 2022, 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, 2021	820,031
DSUs granted	35,953
DSUs exercised	(99,761)
At December 31, 2021	756,223
DSUs granted	80,319
DSUs exercised	(126,862)
At December 31, 2022	709,680

During 2022, compensation expense of $529,000 (2021 - $672,000) was recorded in net loss relating to 80,319 DSUs (2021 - 35,953) granted during the year.

During 2022, 126,862 DSUs (2021 – 99,761) were exercised, net of applicable taxes, which resulted in the issuance of 58,990 common shares (2021 – 46,388), resulting in an impact on equity of $753,000 (2021 - $1,290,000).

As at December 31, 2022, 709,680 deferred share units were outstanding (2021 – 756,223).

(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.

21. Equity (cont'd):

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

Balance	RSUs for common shares
At January 1, 2021	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
RSUs granted	567,693
RSU performance factor adjustment	(29,004)
RSUs exercised	(460,681)
RSUs forfeited	(42,148)
At December 31, 2022	1,002,080

During 2022, compensation expense of $2,778,000 (2021 - $2,904,000) was recorded in net loss.

During 2022, 567,693 RSUs were issued (2021 – 195,838). 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 2022, 460,681 RSUs (2021 – 325,863) were exercised, net of applicable taxes, which resulted in the issuance of 217,832 common shares (2021 – 156,449), resulting in an impact on equity of $2,466,000 (2021 - $4,357,000).

As at December 31, 2022, 1,002,080 RSUs were outstanding (2021 – 966,220).

22. Commitments and contingencies:

As at December 31, 2022, as specified in the Equity Joint Venture Agreement, the Corporation has fulfilled its capital contribution commitments to Weichai Ballard JV (note 14). The Corporation is 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 £7,215,000 invested as of December 31, 2022) into HyCap. The Corporation has committed to investing €30,000,000 (including €996,000 invested as of December 31, 2022) into Clean H2.

As at December 31, 2022, the Corporation has outstanding commitments aggregating up to a maximum of $ 42,576,000 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, 2022 and December 31, 2021.

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, 2022, 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, 2022, no royalties have been incurred to date for this agreement.

22. Commitments and contingencies (cont'd):

In the ordinary course of business or as required by certain acquisition or disposition agreements, the Corporation is not periodically required to provide certain indemnities to other parties. As of December 31, 2022, the Corporation has not accrued any significant amount owing, or receivable, due to any indemnity agreements undertaken in the ordinary course of business.

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, 2022		December 31, 2021
Geographical markets				
China	$	9,127	$	38,818
Europe		40,370		42,588
North America		28,572		20,599
Other		5,717		2,500
	$	83,786	$	104,505
Market application				
Heavy Duty Motive		38,914		51,663
Material Handling		6,353		8,140
Stationary Power Generation		10,917		8,214
Technology Solutions		27,602		36,488
	$	83,786	$	104,505
Timing of revenue recognition				
Products transferred at a point in time		52,749		65,208
Products and services transferred over time		31,037		39,297
	$	83,786	$	104,505

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, 2022		December 31, 2021
Salaries and employee benefits	$	99,778	$ 84,555
Share-based compensation (note 21)		9,408	9,669
	$	109,186	$ 94,224

25. Other operating expense:

	December 31, 2022	December 31, 2021
Net impairment loss on trade receivables	$ 73	$ 54
Impairment loss allowance	—	—
Restructuring and related costs	5,317	156
Acquisition related costs	2,857	2,115
	$ 8,247	$ 2,325

During the year ended December 31, 2022, the Corporation recorded a net impairment loss on trade receivables of $ 73,000 (2021 - $54,000), consisting primarily 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.

During the year ended December 31, 2022, total restructuring and related charges of $ 5,317,000 were comprised of: cost reduction initiatives of $482,000 (2021 - $156,000) and additional charges of $ 4,835,000 (2021 - $nil) related to the post-acquisition restructuring of operations at Ballard Motive Solutions in the UK (note 7) including contract exit and modification costs, grant adjustment charges, personnel change costs, and legal and advisory costs, net of expected recoveries.

Acquisition related costs of $ 2,857,000 (2021 - $2,115,000) for the year ended December 31, 2022 consist primarily of other legal, advisory, and transaction related costs incurred due to certain corporate development activities.

26. Finance income and expense:

	2022	2021
Employee future benefit plan expense (note 20)	$ (189)	$ (251)
Investment income	19,609	3,743
Mark to market and foreign exchange loss on financial assets (notes 14 & 33)	(16,877)	(9,024)
Foreign exchange loss	(4,545)	(1,336)
Government levies	(100)	(1,945)
Finance loss and other	$ (2,102)	$ (8,813)
Finance expense	$ (1,279)	$ (1,294)

27. Impairment charges on intangible assets:

Upon acquisition of Ballard Motive Solutions (note 7), acquired intangible assets consisting of technology (patents, know-how and in-process research and development), customer contracts and relationships, and non-compete agreement were recognized. In connection with the post-acquisition restructuring of operations at Ballard Motive Solutions, management noted indicators of impairment for the acquired intangible assets, resulting in a write-down totalling $13,017,000.

27. Impairment charges on intangible assets (cont'd):

Acquired intangible assets with a net book value of $ 15,517,000 were assessed for impairment. The fair value of the technology intangible assets was determined by using the Discounted Cash Flow ("DCF") approach which is a variant of the Income Approach. The fair value of the acquired technology was estimated by calculating the net present value of the future economic benefits expected to accrue to the acquired technology. As a result of this review, the Corporation estimated that the fair value of the acquired Ballard Motive Solutions' technology intangible assets to be $2,500,000 as at December 31, 2022, resulting in an impairment charge of $11,978,000 on the technology intangible assets for the year ended December 31, 2022. Furthermore, as part of this review, the Corporation estimated the fair value of the acquired customer contracts and relationships (net book value of $880,000) and non-compete agreement (net book value of $ 159,000) to be $nil and $nil respectively as at December 31, 2022, resulting in impairment charges of $ 880,000 and $159,000 respectively for the year ended December 31, 2022.

Acquired intangible assets		Cost		Accumulated amortization		Net carrying amount		Impairment		Ending Balance
Technology	$	15,976	$	1,498	$	14,478	$	11,978	$	2,500
Customer contracts and relationships		1,048		168		880		880		—
Non-compete agreement		255		96		159		159		—
	$	17,279	$	1,762	$	15,517	$	13,017	$	2,500

28. Recovery on settlement of contingent consideration:

Total contingent cash consideration payable from the acquisition of Ballard Motive Solutions of up to $ 27,000,000 ($14,900,000 paid as of December 31, 2022) was measured at fair value of $26,258,000 on the acquisition date in November 2021 (note 7). Since the payment of the cash consideration is contingent on the achievement of various performance conditions (milestones) over an up to three-year period from the acquisition date, any change in the fair value of contingent payables due to changes in expectation of meeting milestones is recognized in the consolidated statements of loss and comprehensive income (loss). During the year ended December 31, 2022, the Corporation recognized a recovery on expected contingent consideration no longer payable of $9,891,000, representing the total estimated change in the fair value of remaining contingent consideration payable for certain milestones that have been cancelled by legal agreement.

29. 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:

		2022		2021
Current tax expense				
Current period income tax	$	39	$	63
Withholding tax		3		21
Total current tax expense	$	42	$	84
Deferred tax expense				
Origination and reversal of temporary differences	$	(18,849)	$	(31,581)
Adjustments for prior periods		304		(565)
Change in unrecognized deductible temporary differences		14,967		31,846
Total deferred tax expense	$	(3,578)	$	(300)
Total income tax expense (recovery) from continuing operations	$	(3,536)	$	(216)

29. Income taxes (cont'd):

(a) Current tax expense (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:

		2022		2021
Net loss before income taxes (from continuing operations)	$	(177,030)	$	(114,613)
Expected tax recovery at 27.00% (2021 – 27.00%)	$	(47,798)	$	(30,945)
Increase (reduction) in income taxes resulting from:				
Non-deductible expenses (non-taxable income)		13,865		6,330
Expiry of losses and ITC		1,515		64
Investment tax credits earned		(3,782)		(3,677)
Foreign tax rate and tax rate differences		4,884		3,341
Change in unrecognized deductible temporary differences		27,777		24,651
Other		3		20
Income taxes (recovery) from continuing operations	$	(3,536)	$	(216)

(b) Recognized deferred tax assets and liabilities:

The components of the Corporation's deferred tax assets and liabilities as at December 31, 2022 are as follows:

		2022		2021
Deferred tax assets				
Losses from operations carried forward	$	596	$	665
Research and development tax credits		29		32
	$	625	$	697
Deferred tax liabilities				
Intangible assets	$	(625)	$	(4,275)
Deferred tax liabilities	$	—	$	(3,578)

(c) Unrecognized deferred tax asset:

At December 31, 2022, the Corporation did not recognize any deferred tax assets resulting from the following deductible temporary differences for financial statement and income tax purposes.

		2022		2021
Scientific research expenditures	$	127,482	$	122,742
Investments		21,463		9,357
Share issuance costs		23,588		33,100
Losses from operations carried forward		284,468		219,326
Investment tax credits		43,451		42,939
Property, plant and equipment and intangible assets		206,491		217,142
	$	706,943	$	644,606

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.

29. Income taxes (cont'd):

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

	2022	2021
Canadian scientific research expenditures	$ 127,482	$ 122,742
Canadian losses from operations	165,647	131,514
Canadian investment tax credits	40,877	42,939
German losses from operations for corporate tax purposes	501	232
US federal losses from operations	49,237	50,103
Denmark losses from operations	50,495	35,996
Hong Kong losses from operations	61	50
UK losses from operations	14,304	2,659
UK research and development tax credits	115	129

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 2032 to 2042.

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 2022 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 2022 to 2042. The UK scientific research and development tax credits may be carried forward indefinitely.

30. 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, 2022 and 2021, 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	2022	2021
Trade and other receivables	$ 13,320	$ 10,794
Investments	24,026	28,982
Deferred revenue	2,095	2,730

Transactions during the year with related party - Weichai Ballard JV	2022	2021
Revenues	$ 8,115	$ 35,239

30. Related party transactions (cont'd):

For the year ended December 31, 2022 and 2021, 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	2022	2021
Trade and other receivables	$ 99	$ 99
Investments	—	—
Deferred revenue	—	16

Transactions during the year with related party - Synergy Ballard JVCo	2022	2021
Revenues	$ 54	$ 3,441

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:

		2022	2021
aries and employee benefits	$	$3,416	3,767
st-employment retirement benefits		61	74
mination benefits		247	—
are-based compensation (note 21)		1,793	2,411
	$	$5,517	6,252

31. Supplemental disclosure of cash flow information:

Non-cash financing and investing activities:	2022	2021
Compensatory shares	$ 1,029	$ 704

32. Operating segments:

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

Revenues of Ballard Motive Solutions are included in the Technology Solutions or Heavy Duty Motive market depending on the nature of the contracted revenue.

In 2022, revenues included sales to two individual customer of $9,426,000 and $8,115,000, respectively, which exceeded 10% of total revenue. In 2021, revenues included sales to one individual customer of $35,239,000, which 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	2022	2021
United States	$ 24,052	$ 17,536
Germany	13,685	22,063
United Kingdom	9,893	8,968
China	9,127	38,818
France	6,903	1,827
Canada	4,520	3,063
Australia	3,711	36
Belgium	3,430	2,121
Denmark	2,529	3,026
Poland	1,769	541
Spain	763	926
India	656	439
Taiwan	640	912
Norway	591	2,521
Japan	541	954
Other countries	976	754
	$ 83,786	$ 104,505

Non-current assets by geographic area are as follows:

Non-current assets	December 31, 2022	December 31, 2021
Canada	$ 180,421	$ 157,805
China	24,047	29,009
United States	6,791	4,121
Denmark	4,398	3,270
United Kingdom	2,913	17,552
	$ 218,570	$ 211,757

33. 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 a previously held investment in a Danish public company held by Ballard Power Systems Europe ("BPSE"). BPSE had an investment of approximately $5,000 in a Danish private company, Green Hydrogen Systems A/S which 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. During the year ended December 31, 2022, the Corporation sold its remaining Green Hydrogen shares for net proceeds of $1,010,000 (2021 - $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, Wisdom Motor, and Quantron AG, as well as equity-accounted investments. Changes in fair value and foreign exchange adjustments are recognized as gains or losses in the consolidated statements of loss and comprehensive income (loss) and included in finance loss and other (note 26). During the year ended December 31, 2022, the Corporation recognized net mark to market and foreign exchange losses of $16,877,000 (2021 - $9,024,000).

Increase (decrease) in fair value due to MTM and foreign exchange	December 31, 2022	December 31, 2021
Short-term investment - Green Hydrogen	$ 15	$ 1,422
Long-term investment - Forsee Power	(14,865)	(10,474)
Long-term investment - Wisdom Motor	—	—
Long-term investment - Quantron AG	150	—
Long-term investment - HyCap Fund	(1,597)	26
Long-term investment - Clean H2 Fund	(580)	2
Decrease in fair value of investments	$ (16,877)	$ (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).

The Corporation's above-mentioned investments in Green Hydrogen and Forsee Power are categorized as Level 1 whereas the other investments are all categorized as Level 3.

(b) Financial risk management:

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

33. Financial instruments (cont'd):

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

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 (loss) if formally designated and qualified under hedge accounting criteria; or (ii) recorded in the statements 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, 2022, the Corporation held Canadian dollar denominated cash and cash equivalents of CDN $75,206,000 and outstanding forward foreign exchange contracts to buy a total of CDN $ 38,000,000 in 2022 at an average rate of CDN $1.31 to US $1.00.

The following exchange rates applied during the year ended December 31, 2022:

	$US to $1.00 CDN	$CDN to $1.00 US
January 1, 2022 Opening rate	$0.787	$1.271
December 31, 2022 Closing rate	$0.739	$1.354
Fiscal 2022 Average rate	$0.769	$1.301

Based on cash and cash equivalents and forward foreign exchange contracts held at December 31, 2022, 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 $8,361,000 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.

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.

33. Financial instruments (cont'd):

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

Interest rate risk (cont'd)

Based on cash and cash equivalents at December 31, 2022, a 1.0% decline in interest rates, with all other variables held constant, would result in a decrease in investment income of $9,127,700. 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.

As a result of this review for the year ended December 31, 2022, the Corporation did not recognize any additional estimated ECL impairment losses.

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 40-F

☐ Registration statement pursuant to Section 12 of the Securities Exchange Act of 1934

or

☒ Annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934

For the fiscal year ended: **December 31, 2022** Commission File Number: **000-53543**

Ballard Power Systems Inc.

(Exact name of registrant as specified in its charter)

British Columbia, Canada	**3620**	**Not Applicable**
(Province or Other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

9000 Glenlyon Parkway

Burnaby, BC

Canada V5J 5J8

(604) 454-0900

(Address and telephone number of registrant's principal executive offices)

CORPORATION SERVICE COMPANY (CSC)

19 West 44th street, Suite 200

New York, NY 1000510036

(800) 927-9800

(Name, address (including zip code) and telephone number (including area code) of agent for service in the United States)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of Each Class:	Trading Symbol	Name of Each Exchange On Which Registered:
Common Shares	**BLDP**	**NASDAQ Global Market**

Securities registered or to be registered pursuant to Section 12(g) of the Act: **Not applicable**

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: **Not applicable**

For annual reports, indicate by check mark the information filed with this form:

☒ Annual Information Form ☒ Audited Annual Financial Statements

Indicate the number of outstanding shares of each of the registrant's classes of capital or common stock as of the close of the period covered by the annual report: **As of December 31, 2022, there were 298,394,203 common shares outstanding.**

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or such shorter period that the Registrant was required to submit such files). ☒ Yes ☐ No

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 12b-2 of the Exchange Act.
Emerging growth company ☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

☐
Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

This Annual Report (this "Annual Report") on Form 40-F shall be incorporated by reference into or as an exhibit to, as applicable, the following Registration Statements of the Registrant filed under the Securities Act of 1933: Form S-8 (File Nos. 333-225494 and 333-161807); and Form F-10 (File No. 333-254584).

DOCUMENTS INCORPORATED BY REFERENCE

The following documents of Ballard Power Systems Inc. (the "Registrant" or the "Company") are filed as exhibits to this Annual Report and are hereby incorporated by reference herein:

- the Registrant's Annual Information Form for the year ended December 31, 2022;
- the Registrant's Audited Consolidated Financial Statements as at and for the years ended December 31, 2022 and 2021, including the notes thereto, together with the report of the independent registered public accounting firm thereon; and
- the Registrant's Management's Discussion and Analysis for the year ended December 31, 2022.

EXPLANATORY NOTE

The Company is a Canadian issuer eligible to file its annual report pursuant to Section 13 of the United States Securities Exchange Act of 1934, as amended (the "Exchange Act") on Form 40-F. The Company is a "foreign private issuer" as defined in Rule 3b-4 under the Exchange Act and Rule 405 under the Securities Act of 1933, as amended. Accordingly, the Company's equity securities are exempt from Sections 14(a), 14(b), 14(c), 14(f) and 16 of the Exchange Act pursuant to Rule 3a12-3.

The Company is permitted, under a multi-jurisdictional disclosure system adopted by the United States, to prepare this Annual Report on Form 40-F in accordance with Canadian disclosure requirements, which are different from those of the United States.

The Company prepares its financial statements in accordance with International Financial Reporting Standards as issued by the International Financial Accounting Boards, and they may be subject to Canadian auditing and auditor independence standards. Accordingly, the financial statements of the Company incorporated by reference in this Annual Report may not be comparable to financial statements of United States companies.

CAUTIONARY STATEMENT REGARDING FORWARD LOOKING STATEMENTS

This Annual Report contains forward-looking statements concerning anticipated developments in the operations of the Company in future periods, planned development activities, the adequacy of the Company's financial resources and other events or conditions that may occur in the future. Forward-looking statements are frequently, but not always, identified by words such as "estimate", "project", "believe", "anticipate", "intend", "expect", "plan", "predict", "may", "should", "will" and similar expressions, or by statements that events, conditions or results "will," "may," "could" or "should" occur or be achieved. Forward-looking statements are statements about the future and are inherently uncertain, and actual achievements of the Company or other future events or conditions may differ materially from those reflected in the forward-looking statements due to a variety of risks, uncertainties and other factors, including, without limitation, those described in the Annual Information Form incorporated by reference in this Annual Report.

The Company's forward-looking statements are based on the beliefs, expectations and opinions of management on the date the statements are made and the Company assumes no obligation to update such forward-looking statements in the future. For the reasons set forth above, investors should not place undue reliance on forward-looking statements.

DISCLOSURE CONTROLS AND PROCEDURES

The required disclosure is included in Management's Discussion and Analysis, which is incorporated herein by reference to Exhibit 99.2.

MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The required disclosure is included in Management's Discussion and Analysis, which is incorporated herein by reference to Exhibit 99.2.

ATTESTATION REPORT OF THE REGISTERED PUBLIC ACCOUNTING FIRM

The Registrant's independent registered public accounting firm, KPMG LLP, independently assessed the effectiveness of the Registrant's internal control over financial reporting. KPMG LLP's attestation is located in the Report of Independent Registered Public Accounting Firm included in the Registrant's Audited Consolidated Financial Statements, which is incorporated herein by reference to Exhibit 99.1.

CHANGES IN INTERNAL CONTROLS OVER FINANCIAL REPORTING

During the period covered by this Annual Report, no changes occurred in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

NOTICES PURSUANT TO REGULATION BTR

There were no notices required by Rule 104 of Regulation BTR that the Company sent during the year ended December 31, 2022 concerning any equity security subject to a blackout period under Rule 101 of Regulation BTR.

AUDIT COMMITTEE AND AUDIT COMMITTEE FINANCIAL EXPERT

The Board has a separately designated standing audit committee (the "Audit Committee") established for the purpose of overseeing the accounting and financial reporting processes of the Company and audits of the financial statements of the Company in accordance with Section 3(a)(58)(A) of the Exchange Act. As of the date of this Annual Report, the Company's Audit Committee is comprised of Douglas P. Hayhurst and Janet Woodruff and James Roche, each of whom the Board has determined is independent, as that term is defined in the listing standards of the NASDAQ Global Market ("Nasdaq") and Rule 10A-3 of the Exchange Act.

The Registrant's Board of Directors has determined that the Audit Committee has at least two members, Douglas P. Hayhurst and Janet Woodruff, who qualify as an audit committee financial expert under as defined in paragraph (8)(b) of General Instruction B of Form 40-F, and is independent, as defined in the listing standards of Nasdaq. A description of Mr. Hayhurst's and Ms. Woodruff's qualifications are included in the Annual Information Form, under the heading "Audit Committee Matters", which is incorporated herein by reference to Exhibit 99.3.

CODE OF ETHICS

The Registrant has adopted a code of ethics that applies to all members of its Board of Directors, as well as its officers and employees. A copy of the code of ethics is posted on the Registrant's Internet website at www.ballard.com, and is available in print to any person without charge, upon written request to the corporate secretary of the Registrant at the principal executive offices of the Registrant provided above. If there are any amendments to the code of ethics, the Registrant intends to provide a brief description of the amendment and a copy of the amendment via its website. No waivers of the code of ethics have been granted to any principal officer of the Registrant or any person performing similar functions during the year ended December 31, 2022.

PRINCIPAL ACCOUNTANT FEES AND SERVICES

The required disclosure is included in the Annual Information Form, under the heading "Audit Committee Matters," which is incorporated herein by reference to Exhibit 99.3.

OFF-BALANCE SHEET ARRANGEMENTS

The required disclosure is included under the heading "Off-Balance Sheet Arrangements & Contractual Obligations" in Management's Discussion and Analysis, which is incorporated herein by reference to Exhibit 99.2.

CONTRACTUAL OBLIGATIONS

The required disclosure is included under the heading “Off-Balance Sheet Arrangements & Contractual Obligations” in Management’s Discussion and Analysis, which is incorporated herein by reference to Exhibit 99.2.

NASDAQ CORPORATE GOVERNANCE

The Registrant’s common shares are listed on Nasdaq. Nasdaq Marketplace Rule 5615(a)(3) permits a foreign private issuer, such as the Registrant, to follow its home country practice in lieu of most of the requirements of the 5600 Series of the Nasdaq Marketplace Rules. For a discussion of the significant differences between our corporate governance practices and those required to be followed by U.S. domestic issuers under Nasdaq’s corporate governance requirements, please refer to our website at www.ballard.com.

FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

RECOVERY OF ERRONEOUSLY AWARDED COMPENSATION

Not applicable.

UNDERTAKING

The Company undertakes to make available, in person or by telephone, representatives to respond to inquiries made by the Commission staff, and to furnish promptly, when requested to do so by the Commission staff, information relating to: the securities regist85ered pursuant to Form 40-F; the securities in relation to which the obligation to file an annual report on Form 40-F arises; or transactions in said securities.

CONSENT TO SERVICE OF PROCESS

The Company has previously filed with the Commission a written consent to service of process on Form F-X. Any change to the name or address of the Company’s agent for service shall be communicated promptly to the Commission by amendment to the Form F-X referencing the file number of the Company.

EXHIBIT INDEX

The following documents are being filed with the Commission as exhibits to this Annual Report on Form 40-F.

Exhibit	Description
99.1	Ballard Power Systems Inc. Consolidated Financial Statements for the years ended December 31, 2022 and 2021
99.2	Ballard Power Systems Inc. Management’s Discussion and Analysis for the year ended December 31, 2022
99.3	Annual Information Form for Ballard Power Systems Inc. for the year ended December 31, 2022
99.4	Certifications pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
99.5	Certifications pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
99.6	Consent of KPMG LLP (PCAOB ID: 85)
101	Interactive Data File, formatted as Inline XBRL
104	Cover Page from this Annual Report on Form 40-F, formatted as Inline XBRL

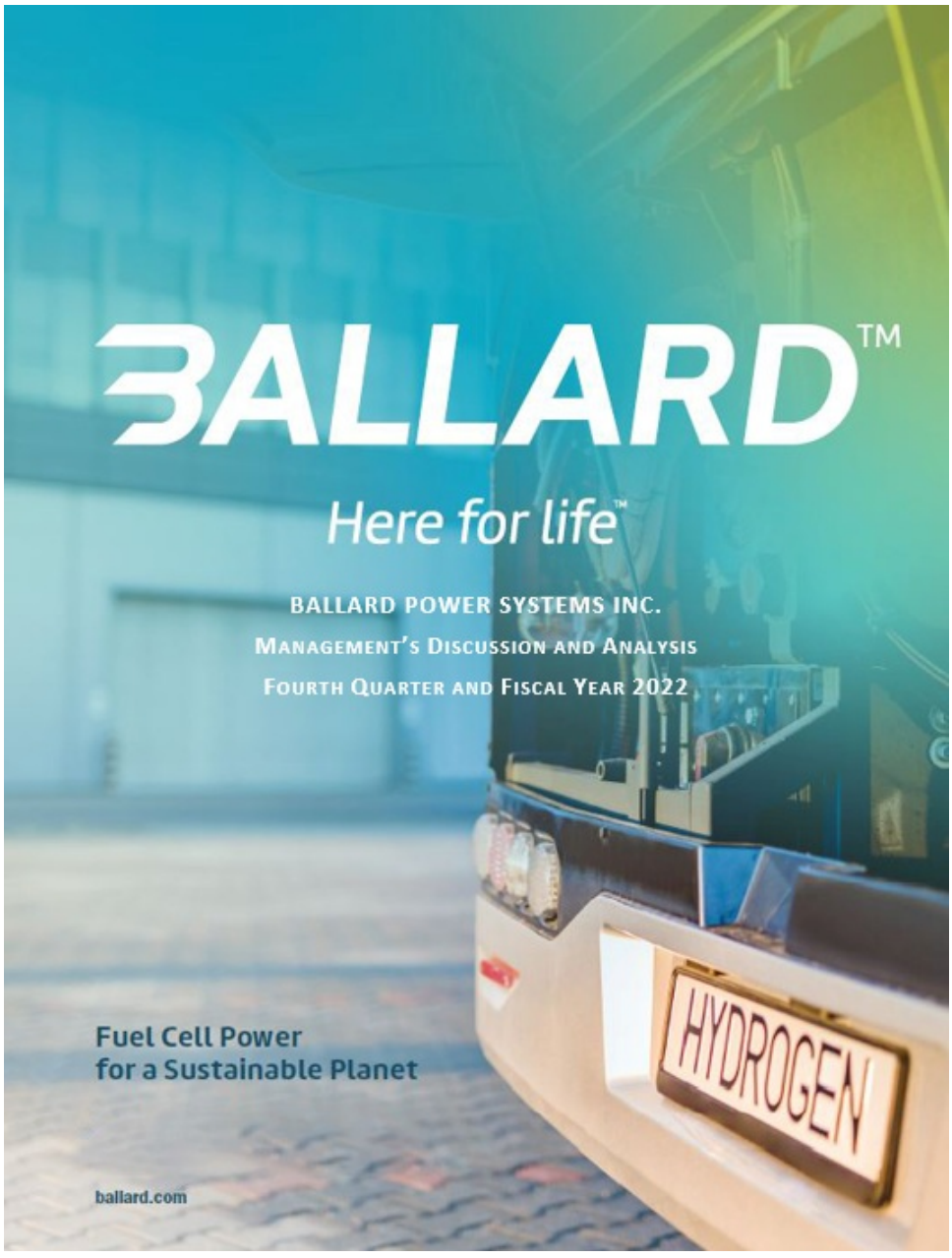
SIGNATURES

Pursuant to the requirements of the Exchange Act, the Registrant certifies that it meets all of the requirements for filing on Form 40-F and has duly caused this Annual Report to be signed on its behalf by the undersigned, thereto duly authorized.

BALLARD POWER SYSTEMS INC.

Date: March 17, 2023

By: /s/ Paul Dobson
Name: Paul Dobson
Title: Vice President and Chief Financial Officer


BALLARD™
Here for life™
BALLARD POWER SYSTEMS INC.
MANAGEMENT'S DISCUSSION AND ANALYSIS
FOURTH QUARTER AND FISCAL YEAR 2022
Fuel Cell Power
for a Sustainable Planet
ballard.com
HYDROGEN

CAUTION REGARDING FORWARD-LOOKING STATEMENTS

This document contains forward-looking statements about expected events and the financial and operating performance of Ballard Power Systems Inc. (“Ballard”, “the Company”, “we”, “us” or “our”). Forward-looking statements include any statements that do not refer to historical facts. Forward-looking statements are based on the beliefs of management and reflect our current expectations as contemplated under the safe harbor provisions of Section 21E of the United States Securities Exchange Act of 1934, as amended. Words such as "estimate", "project", "believe", "anticipate", "intend", "expect", "plan", "predict", "may", "should", "will", the negatives of these words or other variations thereof and comparable terminology are intended to identify forward-looking statements. Such statements include, but are not limited to, statements with respect to our objectives, goals, liquidity, sources and uses of capital, outlook including our estimated revenue and gross margins, cash flow from operations, Cash Operating Costs, EBITDA and Adjusted EBITDA (see Non-GAAP measures), strategy, order backlog, order book of expected deliveries, future product roadmap costs and selling prices, future product sales, future production capacities and volumes, the markets for our products, expenses / costs, contributions and cash requirements to and from joint venture operations and research and development activities, as well as statements with respect to our beliefs, plans, objectives, expectations, anticipations, estimates and intentions. These statements are not guarantees of future performance and involve assumptions, risks and uncertainties that are difficult to predict. In particular, these forward-looking statements are based on certain factors and assumptions relating to our expectations with respect to new and existing customer and partner relationships, the generation of new sales, producing, delivering, and selling the expected product and service volumes at the expected prices and controlling our costs. They are also based on a variety of general factors and assumptions including, but not limited to, our expectations regarding technology and product development efforts, manufacturing capacity and cost, product and service pricing, market demand, and the availability and prices of raw materials, labour, and supplies. These assumptions have been derived from information available to the Company including information obtained by the Company from third parties. These assumptions may prove to be incorrect in whole or in part. In addition, actual results may differ materially from those expressed, implied, or forecasted in such forward-looking statements. Factors that could cause our actual results or outcomes to differ materially from the results expressed, implied or forecasted in such forward-looking statements include, but are not limited to: challenges or delays in our technology and product development activities; our ability to extract value from joint venture operations; changes in the availability or price of raw materials, labour, supplies and shipping; costs of integration, and the integration failing to achieve the expected benefits of the transaction; our ability to attract and retain business partners, suppliers, employees and customers; global economic trends and geopolitical risks (such as the conflict between Russia and Ukraine), including changes in the rates of investment, inflation or economic growth in our key markets, or an escalation of trade tensions such as those between the U.S. and China; the relative strength of the value proposition that we offer our customers with our products or services; changes in competitive technologies, including battery and fuel cell technologies; product safety, liability or warranty issues; changes in our customers’ requirements, the competitive environment and/or related market conditions; potential merger and acquisition activities, including risks related to integration, loss of key personnel, disruptions to operations; warranty claims, product performance guarantees, or indemnification claims; changes in product or service pricing or cost; market developments or customer actions (including developments and actions arising from epidemics and pandemic) that may affect levels of demand and/or the financial performance of the major industries and customers we serve, such as secular, cyclical and competitive pressures in the bus, truck, rail and marine sectors; the rate of mass adoption of our products or related ecosystem, including the availability of cost-effective hydrogen; cybersecurity threat; our ability to protect our intellectual property; the severity, magnitude and duration of the COVID-19 pandemic, including impacts of the pandemic and of businesses’ and governments’ responses to the pandemic on our operations, personnel and joint venture operations, and on commercial activity and demand across our and our customers’, partners’ and joint venture businesses, and on global supply chains; climate risk; changing government or environmental regulations, including subsidies or incentives associated with the adoption of clean energy products, including hydrogen and fuel cells; currency fluctuations, including the magnitude of the rate of change of the Canadian dollar versus the U.S. dollar; our access to funding and our ability to provide the capital required for product development, operations and marketing efforts, working capital requirements, and joint venture capital contributions; the general assumption that none of the risks identified in the Risks and Uncertainties section of this document or in our most recent Annual Information Form will materialize. Readers should not place undue reliance on Ballard's forward-looking statements. The forward-looking statements contained in this document speak only as of the date of this Management Discussion and Analysis (“MD&A”). Except as required by applicable legislation, Ballard does not undertake any obligation to release publicly any updates or revisions to these forward-looking statements to reflect events or circumstances after the date of this MD&A including the occurrence of unanticipated events.

MANAGEMENT'S DISCUSSION AND ANALYSIS

March 16, 2023

Section	Description
1. Introduction	1.1 Preparation of the MD&A 1.2 Management's Report on Disclosure Controls and Procedures and Internal Controls over Financial Reporting 1.3 Risks and Uncertainties
2. Core Strategy and Business	2.1 Core Business 2.2 Strategic Imperatives
3. Select Annual Financial Information and 2023 Business Outlook	3.1 Select Annual Financial Information 3.2 2022 Performance Compared to 2022 Business Outlook 3.3 2023 Business Outlook
4. Recent Developments (Including Contractual Updates)	4.1 China 4.2 Europe 4.3 North America and Other
5. Results of Operations	5.1 Operating Segments 5.2 Summary of Key Financial Metrics – Three months ended December 31, 2022 5.3 Summary of Key Financial Metrics – Year ended December 31, 2022 5.4 Operating Expenses and Other Items – Three months and Year ended December 31, 2022 5.5 Summary of Quarterly Results
6. Cash Flow, Liquidity and Capital Resources	6.1 Summary of Cash Flows 6.2 Cash Provided by (Used by) Operating Activities 6.3 Cash Provided by (Used by) Investing Activities 6.4 Cash Provided by (Used by) Financing Activities 6.5 Liquidity and Capital Resources
7. Other Financial Matters	7.1 Off Balance Sheet Arrangements and Contractual Obligations 7.2 Related Party Transactions 7.3 Outstanding Share and Equity Information
8. Use of Proceeds	8.1 Reconciliation of Use of Proceeds from Previous Financings
9. Accounting Matters	9.1 Overview 9.2 Critical Judgments in Applying Accounting Policies 9.3 Key Sources of Estimation Uncertainty 9.4 Recently Adopted Accounting Policy Changes 9.5 Future Accounting Policy Changes
10. Supplemental Non-GAAP Measures and Reconciliations	10.1 Overview 10.2 Cash Operating Costs 10.3 EBITDA and Adjusted EBITDA

1. INTRODUCTION

1.1 Preparation of the MD&A

This discussion and analysis of financial condition and results of operations of Ballard Power Systems Inc. ("Ballard", "the Company", "we", "us" or "our") is prepared as of March 16, 2023 and should be read in conjunction with our audited condensed consolidated financial statements and accompanying notes for the year ended December 31, 2022. The results reported herein are presented in U.S. dollars unless otherwise stated and have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board. Additional information relating to the Company, including our Annual Information Form, is filed with Canadian (www.sedar.com) and U.S. securities regulatory authorities (www.sec.gov) and is also available on our website at www.ballard.com.

1.2 Management's Report on Disclosure Controls and Procedures and Internal Controls over Financial Reporting

Disclosure controls and procedures

Our disclosure controls and procedures are designed to provide reasonable assurance that relevant information is gathered and reported to senior management, including the Chief Executive Officer ("CEO") and the Chief Financial Officer ("CFO"), on a timely basis so that appropriate decisions can be made regarding public disclosures.

As of the end of the period covered by this report, we evaluated, under the supervision and with the participation of management, including the CEO and the CFO, the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a–15(e) and 15d-15(e) of the Securities Exchange Act of 1934 ("Exchange Act"). The CEO and CFO have concluded that as of December 31, 2022, our disclosure controls and procedures were effective to ensure that information required to be disclosed in reports we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified therein, and accumulated and reported to management to allow timely discussions regarding required disclosure.

Internal control over financial reporting

The CEO and CFO, together with other members of management, are responsible for establishing and maintaining adequate internal control over the Company's financial reporting. Internal control over financial reporting is designed under our supervision, and overseen by the Company's board of directors, management, and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS.

There are inherent limitations in the effectiveness of internal control over financial reporting, including the possibility that misstatements may not be prevented or detected. Accordingly, even effective internal controls over financial reporting can provide only reasonable assurance with respect to financial statement preparation. Furthermore, the effectiveness of internal controls can change with circumstances.

Management, including the CEO and CFO, have evaluated the effectiveness of internal control over financial reporting, as defined in Rules 13a–15(f) of the Exchange Act, in relation to criteria described in *Internal Control–Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of

the Treadway Commission ("COSO"). Based on this evaluation, management has determined that internal control over financial reporting was effective as of December 31, 2022.

KPMG LLP, our independent registered public accounting firm, has audited our consolidated financial statements and expressed an unqualified opinion thereon. KPMG LLP has also expressed an unqualified opinion on the effectiveness of our internal control over financial reporting as of December 31, 2022.

Changes in internal control over financial reporting

On November 11, 2021, we completed the acquisition of Arcola Energy Limited ("Arcola"), a UK-based systems engineering company (subsequently renamed Ballard Motive Solutions Ltd. ("Ballard Motive Solutions")) specializing in hydrogen fuel cell powertrain and fuel cell vehicle systems integration. Through 2022, we aligned our internal controls over financial reporting to include the operating activities of Ballard Motive Solutions. During the year ended December 31, 2022, there were no other changes in internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting. Our design of disclosure controls and procedures and internal controls over financial reporting includes controls, policies and procedures covering our subsidiaries including Ballard Power Systems Europe A/S, Ballard Fuel Cell Systems Inc., Ballard Motive Solutions Ltd., and Guangzhou Ballard Power Systems Co., Ltd.

1.3 Risks and Uncertainties

An investment in our common shares involves risk. Investors should carefully consider the risks and uncertainties described below and in our Annual Information Form. The risks and uncertainties described in our Annual Information Form are not the only ones that we face. Additional risks and uncertainties, including those that we do not know about now or that we currently deem immaterial, may also adversely affect our business. For a more complete discussion of the risks and uncertainties which apply to our business and our operating results, please see our Annual Information Form and other filings with Canadian (www.sedar.com) and U.S. (www.sec.gov) securities regulatory authorities.

A summary of our identified risks and uncertainties are as follows:

- We may not be able to successfully execute our business plan.
- In China, a significant amount of operations are conducted by joint ventures that we cannot operate solely for our benefit.
- We are dependent on third party suppliers for the supply of key materials and components for our products and services.
- We are dependent upon Original Equipment Manufacturers and Systems Integrators to purchase certain of our products.
- In our Heavy-Duty Motive market, we depend on a limited number of customers for a majority of our revenues and are subject to risks associated with early stage market activities related to fuel cell bus, truck, rail and marine applications.

- We depend on Chinese customers for a significant portion of our revenues in our Heavy-Duty Motive market, and we are subject to risks associated with economic conditions and government policies and practices in China.
- We have limited experience manufacturing fuel cell products on a commercial basis and our experience has been limited to relatively low production volumes.
- We are subject to risks inherent in international operations, including restrictions on the conversion of currencies and restrictions on repatriation of funds, including out of China.
- Certain of our customer supply agreements are subject to certain conditions or risks, including achievement of certain product performance milestones, completion of product development programs, or customer cancellation provisions.
- Global macro-economic and political conditions are beyond our control and may have an adverse impact on our business, our joint ventures, our key suppliers, and/or customers.
- We currently face and will continue to face significant competition, and many current and future competitors may have significantly more resources.
- We could be adversely affected by risks associated with capital investments and new business processes.
- We could be adversely affected by risks associated with mergers and acquisitions.
- We could lose or fail to attract the personnel necessary to operate our business.
- Warranty claims, product performance guarantees, or indemnification claims could negatively impact our gross margins and financial performance.
- Our technology and products may not meet the market requirements, including requirements relating to performance, integration and / or cost.
- We may not be able to sell our products on a commercially viable basis on the timetable we anticipate, or at all.
- A mass market for our products may never develop or may take longer to develop than we anticipate.
- We may experience cybersecurity threats to our information technology infrastructure and systems, and unauthorized attempts to gain access to our proprietary or confidential information, as may our customers, suppliers and/or partners.
- We depend on our intellectual property, and our failure to protect that intellectual property could adversely affect our expected future growth and success.
- Emerging diseases, like COVID-19, may adversely affect our operations (including our joint ventures in China), our suppliers, our customers and/or partners.
- In our Technology Solutions market, we depend on a limited number of customers for a majority of our revenues and are subject to risks related to the continued commitment of these customers to their fuel cell programs.

- In our Material Handling market, we depend on a single customer for the majority of our revenues and are subject to risks from that customer's internal fuel cell stack development and commercialization plans.
- Climate change risks may adversely affect our operations, or the operations of our suppliers, customers and/or partners.
- Public policy and regulatory changes could hurt the market for our products and services.
- Regulatory agencies could require us to modify or terminate existing investments, acquisitions or joint ventures and could delay or prevent future opportunities.
- Exchange rate fluctuations are beyond our control and may have a material adverse effect on our business, operating results, financial condition and profitability.
- Commodity price fluctuations are beyond our control and may have a material adverse effect on our business, operating results, financial condition and profitability.
- We expect our cash reserves will be reduced due to future operating losses, working capital requirements, capital expenditures and potential acquisitions and other investments by our business, including in certain hydrogen infrastructure and growth equity funds, and we cannot provide certainty as to how long our cash reserves will last or that we will be able to access additional capital when necessary.
- Potential fluctuations in our financial and business results make forecasting difficult and may restrict our access to funding for our commercialization plan.
- Our products use flammable fuels and some generate high voltages, which could subject our business to product safety, product liability or other claims.
- We could be liable for environmental damages resulting from our research, development or manufacturing operations.

2. CORE BUSINESS AND STRATEGY

2.1 Core Business

At Ballard, our vision is to deliver fuel cell power for a sustainable planet. We are recognized as a world leader in proton exchange membrane ("PEM") fuel cell power system development and commercialization.

Our principal business is the design, development, manufacture, sale and service of PEM fuel cell products for a variety of applications, focusing on our power product markets of Heavy-Duty Motive (consisting of bus, truck, rail and marine applications), Material Handling and Stationary Power Generation, as well as the delivery of Technology Solutions, including engineering services, technology transfer, and the license and sale of our extensive intellectual property portfolio and fundamental knowledge for a variety of PEM fuel cell applications. With the acquisition of Arcola (now Ballard Motive Solutions) in November 2021, we also offer hydrogen fuel cell powertrain integration solutions.

A fuel cell is an environmentally clean electrochemical device that combines hydrogen fuel with oxygen (from the air) to produce electricity. The hydrogen fuel can be obtained from natural gas, kerosene, methanol, or other hydrocarbon fuels, or from water through electrolysis. Ballard's PEM fuel cell products

typically feature high fuel efficiency, relatively low operating temperature, high durability, low noise and vibration, compact size, quick response to changes in electrical demand, and modular design. Embedded in each Ballard fuel cell product lies a stack of unit cells designed with our proprietary PEM fuel cell technology, which include membrane electrode assemblies, catalysts, plates, and other key components, and draw on intellectual property from our patent portfolio, together with our extensive experience and know-how, in key areas of PEM fuel cell stack design, operation, production processes and systems integration.

We are based in Canada, with head office, research, technology and product development, engineering services, testing, manufacturing and after-sale service facilities in Burnaby, British Columbia. We also have sales, assembly, research and development, certain engineering services and after-sale service facilities in Hobro, Denmark and London, U.K., and have a sales, quality, supply chain, and after-sales service office in Guangzhou, Guangdong Province, China.

We also have a non-controlling, 49% interest in Weichai Ballard Hy-Energy Technologies Co., Ltd. ("Weichai Ballard JV"), located in Weifang, Shandong Province, China. Weichai Ballard JV's business is to manufacture certain fuel cell products utilizing Ballard's LCS fuel cell stack and LCS-based power modules for bus, commercial truck, and forklift applications with certain exclusive rights in China.

In addition, we have a non-controlling 10% interest in Guangdong Synergy Ballard Hydrogen Power Co., Ltd. ("Synergy Ballard JVCo"), located in Yunfu, Guangdong Province, China. Synergy Ballard JVCo's business is to manufacture fuel cell products utilizing our FCveloCity®-9SSL fuel cell stack technology for use primarily in fuel cell engines assembled and sold in China.

Furthermore, in the fourth quarter of 2022, we invested 5.0 million euros and acquired a non-controlling 2% interest in Quantron AG, a global electric vehicle integrator and an emerging specialty OEM, to accelerate fuel cell truck adoption. In the second quarter of 2022, we acquired a non-controlling 7% interest in Wisdom Group Holdings Ltd., a Cayman Island holding company with operating subsidiaries whose business includes the design and manufacture of vehicles, including zero emission fuel cell electric buses, trucks, and battery-electric vehicles. In 2021, we acquired a non-controlling 9.7% equity interest in Forsee Power SA ("Forsee Power"), a French company specializing in the design, development, manufacture, commercialization, and financing of smart battery systems for sustainable electric transport. We have also invested in two hydrogen infrastructure and growth equity funds: (i) a 11% interest in the HyCap Fund I SCSP ("HyCap"), a special limited partnership registered in Luxembourg; and (ii) a 1% interest in Clean H2 Infra Fund ("Clean H2"), a special limited partnership registered in France.

2.2 Strategic Imperatives

We strive to build value for our shareholders by developing, manufacturing, selling, and servicing zero-emission, industry-leading PEM fuel cell technology products and services to meet the needs of our customers in target markets. More specifically, our business plan is to leverage our core competencies of PEM fuel cell stack technology and engine development and manufacturing, our investments in advanced manufacturing and production capacity, and our product portfolio by marketing our products and services across select large and attractive addressable market applications and select geographic regions.

We typically select our target market applications based on use cases where the comparative user value proposition for PEM fuel cells powered by hydrogen are strongest – such as where operators value low emission vehicles that require high utilization, long driving range, heavy payload, fast refueling, and similar user experiences to legacy diesel vehicles – and where the barriers to entry for hydrogen refueling infrastructure are lowest – such as use cases where fuel cell vehicles typically return to a depot or hydrogen hub for centralized refueling and don't require a distributed hydrogen refueling network. Our current target markets include certain medium- and heavy-duty mobility applications of bus, truck, rail, and marine, along with certain off-road mobility and stationary power applications.

We select our target geographic markets based on a variety of factors, including addressable market sizes of the target market applications in the geographic markets, historic deployments and expected market adoption rates for hydrogen and fuel cells, supportive government policies, existing and potential partner, customer, and end user relationships, and competitive dynamics. Our current target markets are the geographic regions of China, Europe, and North America.

While we recognize addressing multiple market applications and geographic markets in parallel increases our near-term cost structure and investments, we believe offering the same core PEM fuel cell technologies and substantially similar derivative PEM fuel cell products across multiple mobility and power market applications and select geographic regions will significantly expand and strengthen our long-term business prospects by increasing volume scaling in our operations, enabling lower product and production costs for the benefit of all markets, improving our competitive positioning and market share, enabling richly diversified revenue streams and profit pools, and improving our return on investment in our technology and product development programs and our investments in manufacturing.

Our strategy is built on 5 key themes:

- Double down in the fuel cell stack & module: invest in leading PEM fuel cell technology and products to provide leading value to our customers and end users based on a total cost of ownership basis;
- Selectively expand across value chain: extend across the value chain to capture control points, reduce technology adoption barriers, simplify, and optimize our customer offering, and accelerate fuel cell deployments;
- Develop new routes to market: creatively explore partnerships and demonstration programs to accelerate hydrogen and fuel cell market adoption and grow volumes for product sales;
- Win in key regions: invest in a competitive platform in each of North America, Europe, and China; and
- Here for Life: deliver a compelling environmental, social and governance ("ESG") proposition for our stakeholders.

In 2020 and 2021, we materially strengthened our financial position through equity financings, thereby providing additional flexibility to fund our growth strategy. Following these financings, given strong indicators of long-term market adoption of hydrogen and zero-emission mobility, given growing customer interest in our fuel cell products, given a growing opportunity set, and given an increasingly competitive environment, we strategically decided to significantly increase and accelerate our investments ahead of

the adoption curve, including investments in our 5 key themes. As a result, we have increased and accelerated our investments in technology and product innovation, production capacity expansion and localization, strategic pricing for select customer demonstration programs, customer experience, and corporate development investments. Our increased investments include significant investment in next generation products and technology, including our proprietary membrane electrode assemblies ("MEAs"), bipolar plates, stacks, modules, and powertrain systems integration including our acquisition of Ballard Motive Solutions; advanced manufacturing processes, technologies, equipment, and production localization activities in China, Europe, and the United States; and technology and product cost reduction.

3. SELECT ANNUAL FINANCIAL INFORMATION AND 2023 BUSINESS OUTLOOK

3.1 Select Annual Financial Information

Results of Operations	**Year ended,**		
(Expressed in thousands of U.S. dollars, except per share amounts and gross margin %)	**2022**	2021	2020
Revenues	**$ 83,786**	$ 104,505	$ 103,877
Gross margin (loss)	**$ (13,095)**	$ 14,013	$ 20,984
Gross margin %	**(16%)**	13%	20%
Total Operating Expenses	**$ 145,804**	$ 102,116	$ 60,745
Cash Operating Costs [(1)]	**$ 118,767**	$ 83,782	$ 50,029
Adjusted EBITDA [(1)]	**$ (144,032)**	$ (82,188)	$ (38,944)
Net loss from continuing operations	**$ (181,793)**	$ (114,397)	$ (49,469)
Net loss from continuing operations per share	**$ (0.58)**	$ (0.39)	$ (0.20)

Financial Position	**At December 31,**		
(expressed in thousands of U.S. dollars)	**2022**	2021	2020
Total assets	**$ 1,246,277**	$ 1,440,943	$ 975,599
Total non-current liabilities	**$ 14,998**	$ 29,567	$ 22,621
Cash, cash equivalents and short-term investments	**$ 915,741**	$ 1,126,899	$ 765,430

Cash Operating Costs and Adjusted EBITDA are non-GAAP measures. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. See reconciliation to GAAP in the Supplemental Non-GAAP Measures section.

3.2 2022 Performance compared to 2022 Business Outlook

Consistent with the Company's past practice, and in view of the early stage of hydrogen fuel cell market development and adoption, we did not provide specific revenue or net income (loss) guidance for 2022. We did however provide certain quantitative and qualitative outlook expectations for 2022 as we continued with our plan to increase investments in the business ahead of the hydrogen growth curve, including expanding product offering and capabilities across the value chain. In particular:

- Total Operating Expenses: $130 million to $150 million – As planned, total Operating Expenses in fiscal 2022 of $145.8 million (compared to $102.1 million in fiscal 2021) were at the higher end of our outlook range as we increased our investment in research and product development ahead of the hydrogen growth curve by advancing new technology, product cost reduction, and product innovation and development across bus, truck, rail, and marine markets, including next-generation MEAs, plates, stacks, and modules, and increasing sales and marketing expenditures.

- Capital Expenditures: $30 million to $50 million – As planned, total Capital Expenditures (being additions to property, plant and equipment and investment in other intangible assets) in fiscal 2022 of $34.5 million (compared to $14.7 million in fiscal 2021) were at the lower end of our outlook range as we invested in testing, advanced manufacturing, and production equipment and capacity. Capital allocation in 2022 includes increasing testing and prototyping capabilities, including new advanced test station equipment and refurbishments of existing testing equipment in Canada, advanced manufacturing equipment in Canada for next-generation bipolar plates, testing and assembly equipment in the U.K., and increased manufacturing capacity in certain international locations including initial amounts incurred in the fourth quarter of 2022 on our recently announced plan to invest $130 million over 3-years in a new MEA manufacturing facility and R&D center in Shanghai, China.
- Introduce plan to expand global footprint - We continue to believe in the value of investing ahead of the hydrogen growth curve and positioning our manufacturing capabilities to support anticipated scale in key regional markets. As such, we reviewed opportunities to expand our presence in growing regional markets and locations including our recently announced plan to invest $130 million over 3-years in a new MEA manufacturing facility and R&D center in Shanghai, China.
- Develop roadmap to achieve corporate "Mission Carbon Zero" goal by 2030 – As planned, we completed our roadmap and implementation plan to achieve carbon neutrality by 2030, including reduction targets for scope 1, scope 2 and partial scope 3 emissions. Further details will be disclosed in our annual ESG Report and the issuance of our first climate report later in 2023.

3.3 2023 Business Outlook

Consistent with the Company's past practice, and in view of the early stage of hydrogen fuel cell market development and adoption, we are not providing specific revenue or net income (loss) guidance for 2023. In 2023, we continue our plan to increase investments in the business ahead of the hydrogen growth curve, including expanding product offering and capabilities across the value chain, and investments in manufacturing. Our 2023 outlook includes:

- Total Operating Expenses: $135 million to $155 million – We expect total Operating Expenses for fiscal 2023 to be between $135 million and $155 million (compared to $145.8 million in fiscal 2022) as we continue to invest in research and product development ahead of the hydrogen growth curve by advancing new technology, product cost reduction, product innovation, and development across bus, truck, rail, marine, and stationary power markets, including next-generation MEAs, plates, stacks, and modules.
- Capital Expenditures: $40 million to $60 million – We expect total Capital Expenditures (being additions to property, plant and equipment and investment in other intangible assets) for fiscal 2023 to be between $40 million and $60 million (compared to $34.5 million in fiscal 2022) as we continue to invest in testing, advanced manufacturing and production. Capital allocation in 2023 includes increasing testing and prototyping capabilities, including new advanced test station equipment and refurbishments of existing testing equipment in Canada, advanced manufacturing equipment in

Canada for next-generation bipolar plates, and investing ahead of the hydrogen growth curve and positioning our manufacturing capabilities to support anticipated scale in key markets. We also continue to look at opportunities to expand our presence in growing markets including our recently announced plan to invest $130 million over 3-years in a new MEA manufacturing facility and R&D center in Shanghai, China.

Our outlook expectations for 2023 are in part supported by our 12-month Order Book of approximately $57.3 million which is derived from our Order Backlog of approximately $133.4 million as of December 31, 2022. Our Order Backlog represents the estimated aggregate value of orders at a given time for which customers have made contractual commitments and our 12-month Order Book represents the aggregate expected value of that portion of the Order Backlog that the Company expects to deliver in the subsequent 12-month period.

Our outlook expectations are based on our internal forecast which reflects an assessment of overall business conditions and takes into account actual sales, operating expenses, capital expenditures, and financial results in the first two months of 2023; sales orders received for units and services expected to be delivered in the remainder of 2023; purchase and cost commitments currently in existence for fiscal 2023; an estimate with respect to the generation of new sales and the timing of deliveries in each of our markets for the balance of 2023; an estimate of purchase and cost commitments to be generated in each of our locations for the balance of 2023; and assumes an average U.S. dollar exchange rate in the mid $0.70's in relation to the Canadian dollar for the remainder of 2023.

The primary risk factors to our business outlook expectations for 2023 are customer, production, or program delays or cancellations in delivering against existing power products and technology solutions orders and delays from forecast in terms of closing and delivering expected sales primarily in our Heavy-Duty Motive market; adverse macro-economic and political conditions including trade, public health, and other geopolitical risks; changes in government subsidy and incentive programs; inadequate investment in hydrogen infrastructure and / or excessive hydrogen fuel costs, all of which could negatively impact our customers' access to capital and the success of their program plans which could adversely impact our business including potential changes, delays or accelerations in our expected operating and capital equipment requirements; disruptions in our Heavy-Duty market due to delays of supply of key materials and components from third party suppliers; disruptions in our Technology Solutions market as a result of our significant reliance on a limited number of customers including Weichai Ballard JV, which are reliant on their internal commercialization plans and budget requirements; disruptions in our Technology Solutions market as a result of delays in achieving program milestones; disruptions in the Material Handling market as a result of our reliance on a single customer in this market and that customer's internal stack development and commercialization plans; and fluctuations in the Canadian dollar relative to the U.S. dollar, as a significant portion of our operating expense commitments and capital expenditure commitments are priced in Canadian dollars.

Our Order Backlog and our 12-month Order Book are currently comprised of a relatively limited number of contracts and a relatively limited number of customers. Given the relative immaturity of our industry and

customer deployment programs, our Order Backlog and 12-month Order Book are potentially vulnerable to risk of cancellation, deferral or non-performance by our customers for a variety of reasons, including: risks related to continued customer commitment to a fuel cell program; risks related to customer liquidity; credit risks; risks related to changes, reductions or eliminations in government policies, subsidies and incentives; risks related to macro-economic and political conditions including trade, public health, and other geopolitical risks; risks related to slower market adoption; risks related to vehicle integration challenges; risks related to the development of effective hydrogen refueling infrastructure; risks related to the ability of our products to meet evolving market requirements; and supplier-related risks. Certain of our customer supply agreements are also subject to certain conditions or risks, including achievement of certain product performance milestones, completion of product development programs, or customer cancellation provisions, and it is likely that some future supply agreements will also be subject to similar conditions and risks. There can be no assurance that we will achieve or satisfy the conditions or that customers will not cancel their orders. In addition, our supply agreements may include various pricing structures or reduced pricing tiers based on various factors, including volumes and timing. In setting these reduced pricing tiers, we may assume certain future product cost reductions which are subject to execution risk, including future commodity costs, supply chain costs, and production costs, and we may not be successful in achieving the planned cost reductions. In such circumstances, these agreements may become future onerous contracts if our gross margins become negative and the value of carried inventory to support product delivery under such contracts may also be adversely impacted.

Furthermore, potential fluctuations in our financial results make financial forecasting difficult. In addition, due to the early stage of development of the market for hydrogen fuel cell products, it is difficult to accurately predict future revenues, operating expenses, cash flows, or results of operations on a quarterly basis. The Company's revenues, operating expenses, cash flows, and other operating results can vary significantly from quarter to quarter. As a result, quarter-to-quarter comparisons of revenues, operating expenses, cash flows, and other operating results may not be meaningful; instead, we believe our operating performance should be assessed over a number of quarters and years. It is likely that in one or more future quarters, financial results will fall below the expectations of securities analysts and investors and the trading price of the Company's shares may be materially and adversely affected as a result.

4. RECENT DEVELOPMENTS (Including Contractual Updates)

4.1 China

Global manufacturing strategy update including plan to invest $130 million in MEA manufacturing facility and R&D center in Shanghai, China

On September 30, 2022, we announced our strategy 'local for local' where we plan to deepen our global manufacturing footprint in Europe, the United States, and China to support expected global market demand growth through 2030. As part of this strategy, we have entered into an investment agreement with the Government of Anting in Shanghai's Jiading District to establish our new China headquarters, MEA manufacturing facility, and an R&D center, at a site strategically located at the Jiading Hydrogen Port, located in one of China's leading automotive industry clusters.

We plan to invest approximately $130 million over the next three years ($2.1 million invested in fiscal 2022), which is expected to enable annual production capacity at the new MEA production facility of approximately 13 million MEAs, which is expected to supply approximately 20,000 engines. We expect to be able to achieve significant capacity expansion of this facility in future phases with much lower capital requirements. The facility is also expected to include space to assemble approximately 600 engines annually to support the production and sale of Ballard engines in the rail, marine, off-road, and stationary markets in China, as well as for certain export markets.

During 2021, we completed our MEA manufacturing expansion in Canada, which is critical as the MEA is the core technology and limiting factor for Ballard's global fuel cell engine production capabilities. With the new MEA capacity coming online in China, we now expect our global MEA capacity to support total demand requirements through the second half of the decade.

This investment is expected to reduce MEA manufacturing costs, align with China's fuel cell value chain localization policy, and position Ballard more strongly in the hydrogen fuel cell demonstration cluster regions and for the post-subsidy market.

The facility is planned to be in operation in 2025 to meet expected market demand in China, including expected demand from Weichai Ballard JV for the bus, truck and forklift markets, as well as other opportunities for Ballard outside of the Weichai Ballard JV scope.

We also expect to set up an R&D and innovation center at the same site. The center will be focused on MEA research to achieve key corporate technical advancements, support cost reduction initiatives, and engage the emerging China local supply chain for fuel cell materials and components.

We also announced the signing of a non-binding memorandum of understanding with Weichai Power Co., Ltd. ("Weichai") whereby Weichai plans to make an equity investment for 2% of Ballard's new MEA manufacturing company.

Weichai Power Co., Ltd. and Weichai Ballard Hy-Energy Technologies Co., Ltd.

On November 13, 2018, we announced the closing of a strategic collaboration transaction with Weichai. Ballard's strategic collaboration with Weichai included:

- *Equity Investment* – an equity investment in Ballard made by Weichai representing a 19.9% interest in the Company at that time. Weichai currently holds an approximate 15.5% interest in Ballard.

  Ballard entered into an investor rights agreement with Weichai under which: (a) so long as Weichai directly or indirectly holds at least 10% of Ballard's outstanding shares, it has an anti-dilution right entitling it to maintain its percentage ownership in Ballard by subscribing for Common Shares from treasury at the same price as Ballard distributes Common Shares to other investors (to date, Weichai's anti-dilution rights with respect to all previous offerings of the Company have expired unexercised); (b) for so long as Weichai directly or indirectly holds at least 15% of Ballard's outstanding Common Shares, it has the right to nominate two directors to Ballard's board of directors; and (c) if there is a third-party offer to buy Ballard, Weichai has the right to make a superior proposal

or otherwise it must vote its Common Shares in accordance with the recommendation of Ballard's board of directors.

- *China Joint Venture and Technology Transfer Agreement* – Weichai and Ballard have established a joint venture company in Shandong Province to support China's Fuel Cell Electric Vehicle market, with Weichai holding a controlling ownership interest of 51% and Ballard holding a 49% ownership position. Weichai Ballard JV was established in the fourth quarter of 2018. During fiscal 2018 through fiscal 2022, Weichai has made all of its committed capital contributions totaling RMB 561.0 million and Ballard has made all of its committed capital contributions totaling RMB 539.0 million (equivalent to $79.4 million). Weichai holds three of five Weichai Ballard JV board seats and Ballard holds two, with Ballard having certain shareholder protection provisions.

  The Weichai Ballard JV develops and manufactures fuel cell modules and components including Ballard's LCS bi-polar plates, fuel cell stacks and FCgen®-LCS-based power modules for bus, commercial truck, and forklift applications with exclusive rights (subject to certain conditions) in China and is to pay Ballard a total of $90 million under a program to develop and transfer technology to Weichai Ballard JV in order to enable these manufacturing activities. Revenue earned from the $90 million Weichai Ballard JV technology transfer agreement ($0.9 million in the fourth quarter of 2022; $4.2 million in the fourth quarter of 2021; $6.0 million in fiscal 2022; $18.2 million in fiscal 2021; $21.2 million in fiscal 2020; $22.5 million in fiscal 2019; $1.2 million in fiscal 2018) is recorded as Technology Solutions revenues. During the fourth quarter of 2018, we received an initial 10% or $9.0 million prepayment from Weichai Ballard JV for this program with additional amounts paid to us as program milestones are successfully completed. We retain an exclusive right to the developed technologies outside China, subject to certain restrictions on sublicensing outside China. The Weichai Ballard JV will also purchase MEAs for FCgen®-LCS fuel cell stacks exclusively from Ballard under a long-term supply agreement.

- *Fuel Cell Sales* – On December 16, 2019, we announced the receipt of a purchase order from Weichai Ballard JV for the delivery of MEAs valued at approximately $19 million under a long-term MEA supply agreement. Revenue earned from this agreement ($0.2 million in the fourth quarter of 2022; $1.1 million in the fourth quarter of 2021; $1.0 million in fiscal 2022; $2.1 million in fiscal 2021; $8.8 million in fiscal 2020) is recorded as Heavy-Duty Motive revenues. As of December 31, 2022, an additional $7.3 million of revenue associated with shipments on this order to Weichai Ballard JV remain unrecognized until these products are ultimately sold by Weichai Ballard JV.

The Weichai Ballard JV operation, located in Weifang, Shandong Province, China, has commenced production activities of LCS bi-polar plates, LCS fuel cell stacks and LCS-based modules to power bus and truck FCEVs for the China market. After recent production automation projects, the Weichai Ballard JV is expected to have annual production capacity of 40,000 fuel cell stacks which equates to approximately 20,000 engines.

Guangdong Synergy Ballard Hydrogen Power Co., Ltd.

During 2017, Synergy Ballard JVCo commenced operations utilizing Ballard's FCveloCity ®-9SSL fuel cell stack technology in the city of Yunfu in China's Guangdong Province. Ballard has a non-controlling 10% interest in the joint venture, Synergy Ballard JVCo, together with Guangdong Nation Synergy Hydrogen Power Technology Co., Ltd. (a member of the "Synergy Group") who has a 90% interest. The fuel cell stacks manufactured by Synergy Ballard JVCo are expected to be used primarily in fuel cell engines assembled in China to provide propulsion power for zero-emission fuel cell electric buses and commercial vehicles in China.

Synergy Ballard JVCo has an exclusive license to manufacture and sell FCveloCity ®-9SSL stacks in China until September 30, 2026. Exclusivity is subject to Synergy Ballard JVCo maintaining certain performance criteria and compliance with: a code of ethics; Ballard's quality policies and branding practices; payment terms; certain intellectual property covenants; achievement of certain minimum annual MEA volume commitments through 2026; and certain financing conditions.

Revenue earned from MEA sales and other agreements with Synergy Ballard JVCo ($0.1 million in the fourth quarter of 2022 and in fiscal 2022; $1.5 million in the fourth quarter of 2021; $3.4 million in fiscal 2021; $8.2 million in fiscal 2020) is primarily recorded as Heavy-Duty Motive revenues.

Ballard contributed $1.0 million for its 10% interest in Synergy Ballard JVCo in 2017, currently recognized at nil value. We have no obligation to provide future funding to Synergy Ballard JVCo. We have recently entered into a tentative agreement to sell our 10% interest in Synergy Ballard JVCo to the Synergy Group for nominal consideration. The transaction is expected to close in the first half of 2023.

4.2 Europe

Order from CrossWind to supply fuel cell system for 1 MW stationary power project

On January 23, 2023, we announced an order to supply a fuel cell system to CrossWind, a joint-venture between Shell and Eneco. The Ballard fuel cell system is to be integrated in the Hollandse Kust Noord offshore wind project. The Hollandse Kust Noord offshore wind project, located off the coast of the Netherlands, is expected to have a capacity of 759 MW to generate at least 3.3 TWh of energy per year.

CrossWind intends to use various new technologies to manage the intermittent wind power generation, including the use of water electrolysis to convert wind power into green hydrogen for energy storage. Ballard's hydrogen fuel cells will utilize the green hydrogen as fuel to regenerate stable and dispatchable power.

Ballard is to supply a containerized fuel cell power solution with a peak power capacity of 1 MW, with delivery expected in 2024.

Order from Solaris for 25 hydrogen fuel cell engines to power buses in Poland

On November 17, 2022, we announced a purchase order from repeat customer Solaris Bus & Coach sp. z o.o. ("Solaris"), a leading European bus manufacturer, for 25 hydrogen fuel cell engines. The 70kW fuel cells are to be installed in Solaris' Urbino 12 hydrogen buses for deployment to Polish public transport operator MPK Poznań and are expected to be delivered in the second half of 2023.

Commissioning of Fusion Fuel H2Évora Green Hydrogen Plant

On November 10, 2022, we announced the completion of the interconnection of Fusion Fuel's H2Évora plant to the Portuguese electric grid and successful commissioning of the facility. The demonstration project, comprised of 15 HEVO-Solar units and associated balance of plant equipment, is expected to produce 15 tons of green hydrogen per year and avoid the emission of 135 tons of CO2 annually. The facility includes a Ballard supplied 200-kilowatt FCwaveTM fuel cell module which is to be used to convert green hydrogen into electricity, enabling Fusion Fuel to sell power into the electric grid during periods of peak demand. The integration of Fusion Fuel's solar-to-hydrogen HEVO solution and Ballard's fuel cell technology is a proof of concept for the use of hydrogen as a flexible energy storage vector and off-grid power supply.

Audi AG

On June 11, 2018, we announced the signing of a 3.5-year extension to our technology solutions contract with Audi AG ("Audi"), part of the Volkswagen Group. The program with Audi is expected to be substantially complete by March 31, 2023. The program, through a series of technical milestone awards, encompasses automotive fuel cell stack development as well as system design support activities for the benefit of Audi.

Revenue earned from this and other agreements with Audi ($1.0 million in the fourth quarter of 2022; $2.6 million in the fourth quarter of 2021; $5.6 million in fiscal 2022; $9.8 million fiscal 2021; $16.0 million in fiscal 2020) is recorded as Technology Solutions revenues.

4.3 North America and Other

Order from First Mode for 30 additional hydrogen fuel cells for diesel-free mining trucks

On March 1, 2023, we announced a purchase order to supply First Mode with 30 hydrogen fuel cell modules – totaling 3 megawatts – to power several hybrid hydrogen and battery ultra-class mining haul trucks. This is the equivalent of approximately 4,000 horsepower.

The 30 Ballard hydrogen fuel cell modules are to be integrated into clean energy powerplants built in Seattle, Washington and installed into ultra-class haul trucks to be operated at First Mode's Proving Grounds in Centralia, Washington. These trucks are estimated to save 2,600 tons of diesel fuel each year.

Project with Adani to develop a hydrogen fuel cell truck for mining & transportation

On January 17, 2023, we announced the signing of an agreement to launch a pilot project to develop a hydrogen fuel cell electric truck ("FCET") for mining logistics and transportation with Adani Enterprises Limited ("AEL"), part of the diversified Adani portfolio of companies, and Ashok Leyland.

The demonstration project will be led by AEL, a company focused on both mining operations and developing green hydrogen projects for sourcing, transporting, and building out hydrogen refueling infrastructure. Ballard will supply the FCmoveTM fuel cell engine for the hydrogen truck and Ashok Leyland, one of the largest manufacturers of buses in the world, will provide the vehicle platform and technical support.

The FCET is scheduled to be launched in India in 2023. The hydrogen powered mining truck utilizing Ballard's 120 kW PEM fuel cell technology is expected to weigh 55 tons, have three hydrogen tanks, and a 200-km working range.

Contract with Amogy to integrate maritime fuel cell engines in zero-emission ammonia-to-power platform

On December 8, 2022, we announced with Amogy Inc. ("Amogy"), a pioneer of emission-free, energy-dense ammonia power solutions, the signing of a contract for Amogy to purchase fuel cell engines from Ballard for ammonia-to-power maritime applications.

Under this contract, Amogy agrees to purchase an initial order of three 200kW FCwaveTM engines and Ballard will support integration of the fuel cell engines with Amogy's proprietary ammonia reforming system. Ballard is expected to deliver the initial FCwave engines to Amogy in 2023 for maritime deployment. A follow-on order for an additional seven FCwaveTM engines is expected upon successful completion of the initial projects.

5. RESULTS OF OPERATIONS

5.1 Operating Segments

We report our results in the single operating segment of Fuel Cell Products and Services. Our Fuel Cell Products and Services segment consists of the sale and service of PEM fuel cell products for our power product markets of Heavy-Duty Motive (consisting of bus, truck, rail, and marine applications), Material Handling and Stationary Power Generation, as well as the delivery of Technology Solutions, including engineering services, technology transfer and the license and sale of our extensive intellectual property portfolio and fundamental knowledge for a variety of fuel cell applications. Revenue from Ballard Motive Solutions (formerly Arcola) is included in our Technology Solutions and Heavy-Duty Motive markets.

For 2023, we anticipate presenting revenue details of our Fuel Cell Products and Services operating segment by certain power product market applications and the delivery of services.

5.2 Summary of Key Financial Metrics – Three Months Ended December 31, 2022

Revenue and Gross Margin

(Expressed in thousands of U.S. dollars)	Three months ended December 31,			
	2022	2021	$ Change	% Change
Heavy-Duty Motive	**$ 9,195**	**$ 22,537**	**$ (13,342)**	**(59%)**
China	*331*	*12,210*	*(11,879)*	*(97%)*
Europe	*3,504*	*6,655*	*(3,151)*	*(47%)*
North America	*4,774*	*3,408*	*1,366*	*40%*
Other	*586*	*264*	*322*	*122%*
Material Handling	**1,590**	**1,289**	**301**	**23%**
North America	*1,588*	*1,268*	*320*	*25%*
Other	2	21	*(19)*	*(90%)*
Stationary Power Generation	**2,692**	**2,735**	**(43)**	**(2%)**
China	*560*	-	*560*	*100%*
Europe	*1,840*	*2,690*	*(850)*	*(32%)*
Other	*292*	*45*	*247*	*549%*
Technology Solutions	**6,987**	**10,144**	**(3,157)**	**(31%)**
China	*1,122*	*4,175*	*(3,053)*	*(73%)*
Europe	*4,015*	*4,731*	*(716)*	*(15%)*
North America	*1,806*	*1,065*	*741*	*70%*
Other	*44*	*173*	*(129)*	*(75%)*
Revenues	20,464	36,705	(16,241)	(44%)
Cost of goods sold	26,383	31,934	(5,551)	(17%)
Gross Margin	$ (5,919)	$ 4,771	$ (10,690)	(224%)
Gross Margin %	(29%)	13%	n/a	(42 pts)

Fuel Cell Products and Services Revenues of $20.5 million for the fourth quarter of 2022 decreased (44%), or ($16.2) million, compared to the fourth quarter of 2021. The (44%) decrease was driven primarily by lower Heavy-Duty Motive and Technology Solutions revenues.

Heavy-Duty Motive revenues of $9.2 million decreased ($13.3) million, or (59%), as lower shipments of fuel cell products in China and Europe were only partially offset by higher sales in North America and Other areas. Excluding product sales to Weichai Ballard JV and Synergy Ballard JVCo in each of the respective periods, Heavy-Duty Motive revenues earned from other customers decreased by ($1.4) million in the fourth quarter of 2022 compared to the fourth quarter of 2021. Heavy-Duty Motive revenues on a quarter-to-quarter basis are impacted by product mix due to varying customer requirements and various fuel cell products, including numerous power configurations required by our customers (and the resulting impact on selling price) of our fuel cell modules, fuel cell stacks, MEAs, and related component and parts kits. Heavy-Duty Motive revenues of $9.2 million in the fourth quarter of 2022 includes $0.3 million to Weichai Ballard JV for the supply of a mix of certain fuel cell products and components that will be used in the assembly of modules to power zero-emission FCEVs in China; and $8.9 million to a variety of customers in North America, Europe, and Other areas including New Flyer, Solaris, Van Hool, and others, primarily for shipments of FCveloCity®-HD7 and FCveloCity®-HDv8 fuel cell modules and related components for their respective bus and rail programs. Heavy-Duty Motive revenues of $22.5 million in the fourth quarter of 2021 includes $10.7 million of shipments to Weichai Ballard JV; $1.5 million for shipments of MEAs to Synergy Ballard JVCo; and $10.3 million to a variety of customers in North America

and Europe including CP Rail, Solaris, Wrightbus, New Flyer, and others, primarily for shipments of FCveloCity ®-HD7 and FCveloCity®-HDv8 fuel cell modules and related components.

Technology Solutions revenues of $7.0 million decreased ($3.2) million, or (31%), due primarily to decreased amounts earned on the Weichai Ballard JV and Audi programs. Revenues of $7.0 million in the fourth quarter of 2022 were from a variety of customer programs including revenue from the Audi program of $1.0 million; the Weichai Ballard JV technology transfer program of $0.9 million; and $5.1 million from a variety of other customer programs including HDF Energy and Siemens AG (“Siemens”). Revenues of $10.1 million in the fourth quarter of 2021 were from a variety of customer programs including revenue from the Weichai Ballard JV technology transfer program of $4.2 million; the Audi program of $2.6 million; and $3.3 million from a variety of other customer programs including Siemens and HDF Energy.

Stationary Power Generation revenues of $2.7 million decreased nominally, or (2%), as increased sales of stationary power generation fuel cell modules, stacks, product and service revenues in China were more than offset by lower sales in Europe.

Material Handling revenues of $1.6 million increased $0.3 million, or 23%, primarily due to higher fuel cell stack shipments to Plug Power.

Fuel Cell Products and Services gross margins were ($5.9) million, or (29%) of revenues, for the fourth quarter of 2022, compared to $4.8 million, or 13% of revenues, for the fourth quarter of 2021. The decrease in gross margin of ($10.7) million, or (224%), was driven primarily by a shift to lower overall product margin and service revenue mix including the impacts of pricing strategy, higher fixed overhead costs due primarily to the expansion of manufacturing capacity, increased onerous contract provision charges, and higher negative inventory adjustments, resulting in an (42) percentage point decrease in gross margin as a percent of revenues.

Gross margin in the fourth quarter of 2022 was negatively impacted by net increases in onerous contract provisions of ($2.8) million due primarily to pricing strategy, negatively impacted by net inventory adjustments of ($1.3) million related primarily to excess and impaired service inventory; and positively impacted by net warranty adjustments of $0.5 million related primarily to contractual expirations. Gross margin in the fourth quarter of 2021 was negatively impacted by net inventory adjustments of ($0.2) million and positively impacted by net warranty adjustments of $0.2 million.

Operating Expenses and Cash Operating Costs

(Expressed in thousands of U.S. dollars)	Three months ended December 31,			
	2022	2021	$ Change	% Change
Research and Product Development	**$ 22,944**	$ 19,870	$ 3,074	15%
General and Administrative	**5,561**	7,420	(1,859)	(25%)
Sales and Marketing	**3,381**	3,417	(36)	(1%)
Operating Expenses	**$ 31,886**	$ 30,707	$ 1,179	4%
Research and Product Development (cash operating cost)	**$ 21,526**	$ 17,153	$ 4,373	25%
General and Administrative (cash operating cost)	**5,921**	6,408	(487)	(8%)
Sales and Marketing (cash operating cost)	**3,163**	3,043	120	4%
Cash Operating Costs	**$ 30,610**	$ 26,604	$ 4,006	15%

Cash Operating Costs and its components of Research and Product Development (cash operating cost), General and Administrative (cash operating cost), and Sales and Marketing (cash operating cost) are non-GAAP measures. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. See the reconciliation of Cash Operating Costs to GAAP in the Supplemental Non-GAAP Measures and Reconciliations section and the reconciliation of Research and Product Development (cash operating cost), General and Administrative (cash operating cost), and Sales and Marketing (cash operating cost) to GAAP in the Operating Expense section. Cash Operating Costs adjusts operating expenses for stock-based compensation expense, depreciation and amortization, impairment losses on trade receivables, restructuring charges, the impact of unrealized gains or losses on foreign exchange contracts, acquisition related costs, and financing charges.

Total Operating Expenses (excluding Other operating expenses) for the fourth quarter of 2022 were $31.9 million, an increase of $1.2 million, or 4%, compared to the fourth quarter of 2021. The increase was driven by higher research and product development expenses of $3.1 million, partially offset by lower general and administrative expenses of ($1.9) million.

Cash Operating Costs (see Supplemental Non-GAAP Measures and Reconciliations) for the fourth quarter of 2022 were $30.6 million, an increase of $4.0 million, or 15%, compared to the fourth quarter of 2021. The increase was driven by higher research and product development cash operating costs of $4.4 million, partially offset by lower general and administrative cash operating costs of ($0.5) million.

The increase in operating expenses and cash operating costs in the fourth quarter of 2022 was driven primarily by increased expenditure on technology and product development activities in Canada, Denmark and the U.K., including the design and development of next generation fuel cell stacks and engines for bus, truck, rail, marine and stationary applications, investment in hydrogen powertrain systems (A-Drive) with battery-FC hybrid architecture, and increased continuation engineering investment in our existing fuel cell products, including activities related to product cost reduction. Increased program investment includes expenditures related to our FCmove™-HD+, a fuel cell module designed for buses and medium and heavy-duty trucks, our FCgen®-HPS High-Power Density Fuel Cell Stack for light-medium-and heavy-duty vehicles, our FCwave™ Fuel Cell Module for marine applications, and on the ongoing improvement of all of our fuel cell products including our high performance fuel cell module, the FCmove™-HD, and our high performance liquid-cooled fuel cell stack, the FCgen®-LCS.

Operating expenses also include the impact of increases in functional staffing levels and the impact of inflationary wage pressures.

These operating expense increases were partially offset by lower general and administrative costs due primarily to lower consulting and recruiting expenses and by relatively lower labour costs in Canada in the fourth quarter of 2022 on our Canadian operating cost base as the Canadian dollar, relative to the U.S. dollar, was approximately (8%) lower in the fourth quarter of 2022 compared to the fourth quarter of 2021.

Adjusted EBITDA

(Expressed in thousands of U.S. dollars)	Three months ended December 31,			
	2022	2021	$ Change	% Change
Adjusted EBITDA	**$ (46,381)**	$ (25,482)	$ (20,899)	(82)%

EBITDA and Adjusted EBITDA are non-GAAP measures. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. See reconciliation of Adjusted EBITDA to GAAP in the Supplemental Non-GAAP Measures and Reconciliations section. Adjusted EBITDA adjusts EBITDA for stock-based compensation expense, transactional gains and losses, acquisition related costs, finance and other income, recovery on settlement of contingent consideration, asset impairment charges, and the impact of unrealized gains and losses on foreign exchange contracts.

Adjusted EBITDA (see Supplemental Non-GAAP Measures and Reconciliations) for the fourth quarter of 2022 was ($46.4) million, compared to ($25.5) million for the fourth quarter of 2021. The ($20.9) million increase in Adjusted EBITDA loss was driven primarily by the decrease in gross margin of ($10.7), the increase in Cash Operating Costs of ($4.0) million, the increase in restructuring related costs of ($5.0) million primarily as a result of the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K., and by higher equity in loss of investment in joint venture and associates of ($1.9) million primarily attributed to the operations of Weichai Ballard JV.

Net Loss from Continuing Operations

(Expressed in thousands of U.S. dollars)	Three months ended December 31,			
	2022	2021	$ Change	% Change
Net loss from continuing operations	**$ (34,427)**	$ (43,836)	$ 9,409	21%

Net loss from continuing operations for the fourth quarter of 2022 was ($34.4) million, or ($0.12) per share, compared to a net loss from continuing operations of ($43.8) million, or ($0.15) per share, in the fourth quarter of 2021. The $9.4 million decrease in net loss in the fourth quarter of 2022 was driven by higher finance and other income of $27.1 million due to increased investment income of $8.8 million and improved mark to market and foreign exchange impacts of $13.2 million on our long-term investments including Forsee Power and certain hydrogen infrastructure and growth equity funds, by recovery on settlement of contingent consideration related to the post-acquisition restructuring of operations at Ballard Motive Solutions of $9.9 million, by higher income tax recoveries of $2.8 million, by lower acquisition related costs of $1.5 million, and by lower stock-based compensation expense of $0.8 million. These net loss improvements were partially offset by the increase in Adjusted EBITDA loss of ($20.9) million, and by higher intangible asset impairment charges of ($13.0) million due to the post-acquisition restructuring of operations at Ballard Motive Solutions and resulting asset write-downs.

In addition, operating margins, and costs in the fourth quarter of 2022 were also impacted by the positive impact of a weaker Canadian dollar, relative to the U.S. dollar, as compared to the fourth quarter of 2021. As a significant amount of our net operating costs (primarily labour) are denominated in Canadian dollars, gross margin, operating expenses, Adjusted EBITDA, and net loss from continuing operations are impacted by changes in the Canadian dollar relative to the U.S. dollar. As the Canadian dollar relative to the U.S. dollar was approximately (7%), or (600) basis points, lower in the fourth quarter of 2022 as compared to the fourth quarter of 2021, positive foreign exchange impacts on our Canadian operating margins and cost base were approximately $1.8 million. A $0.01 decrease in the Canadian dollar, relative to the U.S. dollar, positively impacts annual operating margins and costs by approximately $1.2 million.

5.3 Summary of Key Financial Metrics – Year Ended December 31, 2022

Revenue and Gross Margin

(Expressed in thousands of U.S. dollars)	Year ended December 31,			
	2022	2021	$ Change	% Change
Heavy-Duty Motive	**$ 38,914**	**$ 51,663**	**$ (12,749)**	**(25%)**
China	*2,114*	*20,163*	*(18,049)*	*(90%)*
Europe	*17,049*	*20,702*	*(3,653)*	*(18%)*
North America	*18,033*	*10,177*	*7,856*	*77%*
Other	*1,718*	*621*	*1,097*	*177%*
Material Handling	**6,353**	**8,140**	**(1,787)**	**(22%)**
North America	*6,311*	*8,119*	*(1,808)*	*(22%)*
Other	*42*	*21*	*21*	*100%*
Stationary Power Generation	**10,917**	**8,214**	**2,703**	**33%**
China	*560*	*-*	*560*	*100%*
Europe	*6,187*	*7,306*	*(1,119)*	*(15%)*
North America	*756*	*-*	*756*	*100%*
Other	*3,414*	*908*	*2,506*	*276%*
Technology Solutions	**27,602**	**36,488**	**(8,886)**	**(24%)**
China	*6,457*	*18,655*	*(12,198)*	*(65%)*
Europe	*17,132*	*14,559*	*2,573*	*18%*
North America	*3,472*	*2,303*	*1,169*	*51%*
Other	*541*	*971*	*(430)*	*(44%)*
Revenues	**83,786**	**104,505**	(20,719)	(20%)
Cost of goods sold	**96,881**	**90,492**	6,389	7%
Gross Margin	**$ (13,095)**	**$ 14,013**	$ (27,108)	(193%)
Gross Margin %	**(16%)**	**13%**	n/a	(29 pts)

Fuel Cell Products and Services Revenues of $83.8 million for 2022 decreased (20%), or ($20.7) million, compared to 2021. The (20%) decrease was driven by lower Heavy-Duty Motive, Technology Solutions and Material Handling revenues, partially offset by increases in Stationary Power Generation revenues.

Heavy-Duty Motive revenues of $38.9 million decreased ($12.7) million, or (25%), as lower shipments of fuel cell products in China and Europe were only partially offset by higher sales in North America and Other areas. Excluding product sales to Weichai Ballard JV and Synergy Ballard JVCo in each of the respective periods, Heavy-Duty Motive revenues earned from other customers increased by $1.6 million in 2022 compared to 2021. Heavy-Duty Motive revenues on a quarter-to-quarter basis are impacted by product mix due to varying customer requirements and various fuel cell products, including numerous power configurations required by our customers (and the resulting impact on selling price) of our fuel cell modules, fuel cell stacks, MEAs, and related component and parts kits. Heavy-Duty Motive revenues of $38.9 million in 2022 includes $2.1 million to Weichai Ballard JV for the supply of a mix of certain fuel cell products and components that will be used in the assembly of modules to power zero-emission FCEVs in China; $0.1 million to Synergy Ballard JVCo; and $36.7 million to a variety of customers in North America, Europe, and Other areas including New Flyer, CP Rail, Solaris, Van Hool, Wrightbus, and others, primarily for shipments of FCveloCity®-HD7 and FCveloCity®-HDv8 fuel cell modules and related components for their respective bus and rail programs. Heavy-Duty Motive revenues of $51.7 million in 2021 include $17.1 million of shipments to Weichai Ballard JV; $3.1 million for shipments of MEAs to Synergy Ballard

JVCo; and $31.5 million to a variety of customers primarily in Europe and North America including Solaris, New Flyer, Wrightbus, CP Rail, Van Hool, and others.

Technology Solutions revenues of $27.6 million decreased ($8.9) million, or (24%), due primarily to decreased amounts earned on the Weichai Ballard JV and Audi programs. Revenues of $27.6 million in 2022 were from a variety of customer programs including revenue from the Weichai Ballard JV technology transfer program of $6.0 million; the Audi program of $5.6 million; and $16.0 million from a variety of other customer programs including HDF Energy and Siemens. Revenues of $36.5 million in 2021 were from a variety of customer programs including revenue from the Weichai Ballard JV technology transfer program of $18.2 million; the Audi program of $9.8 million; and $8.5 million from a variety of other customer programs including Siemens and HDF Energy.

Stationary Power Generation revenues of $10.9 million increased $2.7 million, or 33%, due primarily to an increase in sales of stationary power generation fuel cell modules, stacks, products and services in Australia, as increased sales in North America and China were primarily offset by lower sales in Europe.

Material Handling revenues of $6.4 million decreased ($1.8) million, or (22%), primarily due to lower fuel cell stack shipments to Plug Power.

Fuel Cell Products and Services gross margins were ($13.1) million, or (16%) of revenues, for 2022, compared to $14.0 million, or 13% of revenues, for 2021. The decrease in gross margin of ($27.1) million, or (193%), was driven primarily by a shift to lower overall product margin and service revenue mix including the impacts of pricing strategy, higher fixed overhead costs due primarily to the expansion of manufacturing capacity, increases in supply costs, higher negative inventory adjustments, increased onerous contract provisions, and higher warranty provisions and adjustments, resulting in an (29) percentage point decrease in gross margin as a percent of revenues.

Gross margin in 2022 was negatively impacted by net inventory adjustments of ($4.6) million related primarily to excess and impaired HD-Motive, service and technology solutions program inventory; by net increases in onerous contract provisions of ($2.9) million due primarily to pricing strategy; and by net warranty adjustments of ($0.4) million related primarily to increased service costs. Gross margin in 2021 was negatively impacted by net inventory adjustments of ($1.1) million and by net warranty adjustments of ($0.3) million.

Operating Expenses and Cash Operating Costs

(Expressed in thousands of U.S. dollars)	Year ended December 31,			
	2022	2021	$ Change	% Change
Research and Product Development	**$ 95,952**	$ 62,162	$ 33,790	54%
General and Administrative	**28,754**	24,725	4,029	16%
Sales and Marketing	**12,851**	12,904	(53)	(0%)
Operating Expenses	**$ 137,557**	$ 99,791	$ 37,766	38%
Research and Product Development (cash operating cost)	**$ 84,048**	$ 52,539	$ 31,509	60%
General and Administrative (cash operating cost)	**23,137**	19,754	3,383	17%
Sales and Marketing (cash operating cost)	**11,582**	11,489	93	1%
Cash Operating Costs	**$ 118,767**	$ 83,782	$ 34,985	42%

Cash Operating Costs and its components of Research and Product Development (cash operating cost), General and Administrative (cash operating cost), and Sales and Marketing (cash operating cost) are non-GAAP measures. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. See the reconciliation of Cash Operating Costs to GAAP in the Supplemental Non-GAAP Measures and Reconciliations section and the reconciliation of Research and Product Development (cash operating cost), General and Administrative (cash operating cost), and Sales and Marketing (cash operating cost) to GAAP in the Operating Expense section. Cash Operating Costs adjusts operating expenses for stock-based compensation expense, depreciation and amortization, impairment losses on trade receivables, restructuring charges, the impact of unrealized gains or losses on foreign exchange contracts, acquisition related costs, and financing charges.

Total Operating Expenses (excluding Other operating expenses) for 2022 was $137.6 million, an increase of $37.8 million, or 38%, compared to 2021. The increase was driven by higher research and product development expenses of $33.8 million and higher general and administrative expenses of $4.0 million.

Cash Operating Costs (see Supplemental Non-GAAP Measures and Reconciliations) for 2022 was $118.8 million, an increase of $35.0 million, or 42%, compared to 2021. The increase was driven by higher research and product development cash operating costs of $31.5 million and higher general and administrative cash operating costs of $3.4 million.

The increase in operating expenses and cash operating costs in 2022 was driven primarily by increased expenditure on technology and product development activities in Canada, Denmark and the U.K., including the design and development of next generation fuel cell stacks and engines for bus, truck, rail, marine and stationary applications, investment in hydrogen powertrain systems (A-Drive) with battery-FC hybrid architecture, and increased continuation engineering investment in our existing fuel cell products, including activities related to product cost reduction. Increased program investment includes expenditures related to our FCmove™-HD+, a fuel cell module designed for buses and medium and heavy-duty trucks, our FCgen®-HPS High-Power Density Fuel Cell Stack for light-medium-and heavy-duty vehicles, our FCwave™ Fuel Cell Module for marine applications, and on the ongoing improvement of all of our fuel cell products including our high performance fuel cell module, the FCmove™-HD, and our high performance liquid-cooled fuel cell stack, the FCgen®-LCS. In addition, general and administrative costs increased in 2022 due to the acquisition of Ballard Motive Solutions in the fourth quarter of 2021 and by higher contracting, recruiting and insurance expenses.

Operating expenses also include the impact of significant increases in functional staffing levels and the impact of inflationary wage pressures. These cost increases were also impacted by lower government funding recoveries primarily in Canada in 2022 due to the expiry of certain COVID-19 grants in the first half of 2021. Government funding recoveries are reflected primarily as a cost offset against gross research and product development expenses. These operating expense increases were partially offset by relatively lower labour costs in Canada in 2022 on our Canadian operating cost base as the Canadian dollar, relative to the U.S. dollar, was approximately (4%) lower in 2022 compared to 2021.

Adjusted EBITDA

(Expressed in thousands of U.S. dollars)		Year ended December 31,			
		2022	2021	$ Change	% Change
Adjusted EBITDA	**$**	**(144,032)**	$ (82,188)	$ (61,844)	(75)%

EBITDA and Adjusted EBITDA are non-GAAP measures. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. See reconciliation of Adjusted EBITDA to GAAP in the Supplemental Non-GAAP Measures and Reconciliations section. Adjusted EBITDA adjusts EBITDA for stock-based compensation expense, transactional gains and losses, acquisition related costs, finance and other income, recovery on settlement of contingent consideration, asset impairment charges, and the impact of unrealized gains and losses on foreign exchange contracts.

Adjusted EBITDA (see Supplemental Non-GAAP Measures and Reconciliations) for 2022 was ($144.0) million, compared to ($82.2) million for 2021. The ($61.8) million increase in Adjusted EBITDA loss was driven primarily by the decrease in gross margin of ($27.1), the increase in Cash Operating Costs of ($35.0) million, the increase in restructuring related costs of ($5.2) million primarily as a result of the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K., partially offset by lower equity in loss of investment in joint venture and associates of $4.5 million primarily attributed to the operations of Weichai Ballard JV.

Net Loss from Continuing Operations

(Expressed in thousands of U.S. dollars)		Year ended December 31,			
		2022	2021	$ Change	% Change
Net loss from continuing operations	**$**	**(173,494)**	$ (114,397)	$ (59,097)	(52)%

Net loss from continuing operations for 2022 was ($173.5) million, or ($0.58) per share, compared to a net loss from continuing operations of ($114.4) million, or ($0.39) per share, in 2021. The ($59.1) million increase in net loss in 2022 was driven primarily by the increase in Adjusted EBITDA loss of ($61.8) million, higher intangible asset impairment charges of ($13.0) million due to the post-acquisition restructuring of operations at Ballard Motive Solutions and resulting asset write-downs, higher depreciation and amortization expense of ($4.4) million, and higher acquisition related costs of ($0.7) million. These net loss increases were partially offset by recovery on settlement of contingent consideration related to the post-acquisition restructuring of operations at Ballard Motive Solutions of $9.9 million, by higher income tax recoveries of $3.3 million, and by higher finance and other income of $6.7 million as higher investment income of $15.9 million was partially offset by increased mark to market and foreign exchange losses of ($7.9) million in 2022 on our long-term investments including Forsee Power and certain hydrogen infrastructure and growth equity funds.

In addition, operating margins, and costs in 2022 were impacted by the positive impact of a weaker Canadian dollar, relative to the U.S. dollar, as compared to 2021. As a significant amount of our net operating costs (primarily labour) are denominated in Canadian dollars, gross margin, operating expenses, Adjusted EBITDA, and net loss from continuing operations are impacted by changes in the Canadian dollar relative to the U.S. dollar. As the Canadian dollar relative to the U.S. dollar was approximately (4%), or (300) basis points, lower in 2022 as compared to 2021, positive foreign exchange impacts on our Canadian operating margins and cost base were approximately $3.6 million. A $0.01 decrease in the Canadian dollar, relative to the U.S. dollar, positively impacts annual operating margins and costs by approximately $1.2 million.

Net Loss from Discontinued Operations

(Expressed in thousands of U.S. dollars)	Year ended December 31,			
	2022	2021	$ Change	% Change
Revenues	**$ —**	$ —	—	—
Cost of goods sold	**—**	—	—	—
Gross margin	**—**	—	—	—
Operating (expenses) recovery	**—**	164	(164)	(100%)
Gain on sale of assets	**—**	—	—	—
Net income (loss) from discontinued operations	**$ —**	$ 164	(164)	(100%)

Net income from discontinued operations for 2021 was $0.2 million, or $0.00 per share, and consist of the results of our former UAV business located in Southborough, Massachusetts that was sold in the fourth quarter of 2020.

5.4 Operating Expenses and Other Items – Three Months and Year ended December 31, 2022

Research and product development expenses

(Expressed in thousands of U.S. dollars)		Three months ended December 31,			
Research and product development		**2022**	2021	$ Change	% Change
Research and product development expense	**$**	**22,944**	$ 19,870	$ 3,074	15%
Less: Depreciation and amortization expense	**$**	**(409)**	$ (1,458)	$ 1,049	72%
Less: Stock-based compensation expense	**$**	**(1,009)**	$ (1,259)	$ 250	20%
Research and Product Development (cash operating cost)	**$**	**21,526**	$ 17,153	$ 4,373	25%

(Expressed in thousands of U.S. dollars)		Year ended December 31,			
Research and product development		**2022**	2021	$ Change	% Change
Research and product development expense	**$**	**95,952**	$ 62,162	$ 33,790	54%
Less: Depreciation and amortization expense	**$**	**(6,599)**	$ (4,101)	$ (2,498)	(61%)
Less: Stock-based compensation expense	**$**	**(5,305)**	$ (5,522)	$ 217	4%
Research and Product Development (cash operating cost)	**$**	**84,048**	$ 52,539	$ 31,509	60%

Research and Product Development (cash operating cost) is a non-GAAP measure. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. Research and Product Development (cash operating cost) adjusts Research and product development expense for depreciation and amortization expense and stock-based compensation expense. See the reconciliation of the adjustments to Research and product development expense in the table above.

Research and product development expenses for the three months ended December 31, 2022, were $22.9 million, an increase of $3.1 million, or 15%, compared to the corresponding period of 2021. Excluding depreciation and amortization expense and stock-based compensation expense, research and product development cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) were $21.5 million in the fourth quarter of 2022, an increase of $4.4 million, or 25%, compared to the fourth quarter of 2021.

Research and product development expenses for the year ended December 31, 2022, were $96.0 million, an increase of $33.8 million, or 54%, compared to the corresponding period of 2021. Excluding depreciation and amortization expense and stock-based compensation expense, research and product development cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) were $84.0 million in 2022, an increase of $31.5 million, or 60%, compared to 2021.

The respective $4.4 million, or 25%, and $31.5 million, or 60%, increases in research and development cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) in the fourth quarter and fiscal year 2022, as compared to the fourth quarter and fiscal year of 2021, was driven primarily by increased expenditure on technology and product development activities in Canada, Denmark and the U.K., including the design and development of next generation fuel cell stacks and engines for bus, truck, rail, marine and stationary applications, investment in hydrogen powertrain systems (A-Drive) with

battery-FC hybrid architecture, and increased continuation engineering investment in our existing fuel cell products, including activities related to product cost reduction. Increased program investment includes expenditures related to our FCmove™-HD+, a fuel cell module designed for buses and medium and heavy-duty trucks, our FCgen®-HPS High-Power Density Fuel Cell Stack for light-medium-and heavy-duty vehicles, our FCwaveTM Fuel Cell Module for marine applications, and on the ongoing improvement of all of our fuel cell products including our high performance fuel cell module, the FCmove™-HD, and our high performance liquid-cooled fuel cell stack, the FCgen®-LCS.

Research and product development expenses also include the impact of significant increases in functional staffing levels and the impact of inflationary wage pressures. These cost increases were also impacted by lower government funding recoveries primarily in Canada in 2022 due to the expiry of certain COVID-19 grants in the first half of 2021. Government funding recoveries are reflected primarily as a cost offset against gross research and product development expenses. These operating expense increases were partially offset by relatively lower labour costs in Canada in 2022 on our Canadian operating cost base as the Canadian dollar, relative to the U.S. dollar, was approximately (8%) lower in the fourth quarter of 2022, compared to the fourth quarter of 2021, and (4%) lower in 2022, compared to 2021.

Depreciation and amortization expense included in research and product development expense for the three months and year ended December 31, 2022, was $0.4 million and $6.6 million, respectively, compared to $1.5 million and $4.1 million, respectively, for the corresponding periods of 2021. Depreciation and amortization expense relate primarily to amortization expense on our intangible assets and depreciation expense on our research and product development facilities and equipment. The increase in 2022 is primarily due to increased investment in core equipment and includes amortization on acquired Ballard Motive Solutions intangible assets.

Stock-based compensation expense included in research and product development expense for the three months and year ended December 31, 2022, was $1.0 million and $5.3 million, respectively, relatively consistent with the corresponding periods of 2021.

General and administrative expenses

(Expressed in thousands of U.S. dollars)		Three months ended December 31,			
General and administrative		**2022**	2021	$ Change	% Change
General and administrative expense	**$**	**5,561**	$ 7,420	$ (1,859)	(25%)
Less: Depreciation and amortization expense	**$**	**(449)**	$ (577)	$ 128	22%
Less: Stock-based compensation expense	**$**	**(248)**	$ (698)	$ 450	64%
Add: Impact of unrealized gains (losses) on foreign exchange contracts	**$**	**1,057**	$ 263	$ 794	302%
General and Administrative (cash operating cost)	**$**	**5,921**	$ 6,408	$ (487)	(8%)

(Expressed in thousands of U.S. dollars)		Year ended December 31,			
General and administrative		**2022**	2021	$ Change	% Change
General and administrative expense	**$**	**28,754**	$ 24,725	$ 4,029	16%
Less: Depreciation and amortization expense	**$**	**(1,915)**	$ (1,672)	$ (243)	(15%)
Less: Stock-based compensation expense	**$**	**(2,840)**	$ (2,780)	$ (60)	(2%)
Add: Impact of unrealized gains (losses) on foreign exchange contracts	**$**	**(862)**	$ (519)	$ (343)	(66%)
General and Administrative (cash operating cost)	**$**	**23,137**	$ 19,754	$ 3,383	17%

General and Administrative (cash operating cost) is a non-GAAP measure. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. General and Administrative (cash operating cost) adjusts General and administrative expense for depreciation and amortization expense, stock-based compensation expense and the impact of unrealized gains or losses on foreign exchange contracts. See the reconciliation of the adjustments to General and administrative expense in the table above.

General and administrative expenses for the three months ended December 31, 2022, were $5.6 million, a decrease of ($1.9) million, or (25%), compared to the corresponding period of 2021. Excluding

depreciation and amortization expense, stock-based compensation expense, and the impact of unrealized gains (losses) on foreign exchange contracts, general and administrative cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) were $5.9 million in the fourth quarter of 2022, a decrease of ($0.5) million, or (8%), compared to the fourth quarter of 2021.

The ($0.5) million, or (8%), decrease in general and administrative cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) in the fourth quarter of 2022, as compared to the fourth quarter of 2021, was due primarily to lower consulting expenses.

General and administrative expenses for the year ended December 31, 2022, were $28.8 million, an increase of $4.0 million, or 16%, compared to the corresponding period of 2021. Excluding depreciation and amortization expense, stock-based compensation expense, and the impact of unrealized gains (losses) on foreign exchange contracts, general and administrative cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) were $23.1 million in 2022, an increase of $3.4 million, or 17%, compared to 2021.

The $3.4 million, or 17%, increase in general and administrative cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) in 2022, as compared to 2021, was due primarily to the acquisition of Ballard Motive Solutions in the fourth quarter of 2021 combined with the impact of increases in functional staffing levels and the impact of inflationary wage pressures. In addition, general and administrative costs increased due to higher contracting, recruiting and insurance expenses.

These operating expense impacts were also impacted by relatively lower labour costs in Canada in 2022 on our Canadian operating cost base as the Canadian dollar, relative to the U.S. dollar, was approximately (8%) lower in the fourth quarter of 2022, compared to the fourth quarter of 2021, and (4%) lower in 2022, compared to 2021.

Depreciation and amortization expense included in general and administrative expense for the three months and year ended December 31, 2022, was $0.4 million and $1.9 million, respectively, relatively consistent with the corresponding periods of 2021. Depreciation and amortization expense relate primarily to our office and information technology intangible assets including our ongoing investment in our ERP system.

Stock-based compensation expense included in general and administrative expense for the three months and year ended December 31, 2022, was $0.2 million and $2.8 million, respectively, relatively consistent with the corresponding periods of 2021.

The impact of unrealized gains (losses) on foreign exchange contracts included in general and administrative expense for the three months and year ended December 31, 2022, was ($1.1) million and ($0.9) million, respectively, compared to $0.3 million and ($0.5) million, respectively, for the corresponding periods of 2021. We use forward foreign exchange contracts to help manage our exposure to currency rate fluctuations. We record these contracts at their fair value as of the balance sheet date as either assets or liabilities with any changes in fair value in the period recorded in profit or loss (general and administrative expense) as these contracts are not designated or qualified under hedge accounting criteria.

Sales and marketing expenses

(Expressed in thousands of U.S. dollars)		Three months ended December 31,			
Sales and marketing		**2022**	2021	$ Change	% Change
Sales and marketing expense	**$**	**3,381**	$ 3,417	$ (36)	(1%)
Less: Depreciation and amortization expense	**$**	**(4)**	$ (12)	$ 8	67%
Less: Stock-based compensation expense	**$**	**(214)**	$ (362)	$ 148	41%
Sales and Marketing (cash operating cost)	**$**	**3,163**	$ 3,043	$ 120	4%

(Expressed in thousands of U.S. dollars)		Year ended December 31,			
Sales and marketing		**2022**	2021	$ Change	% Change
Sales and marketing expense	**$**	**12,851**	$ 12,904	$ (53)	(0%)
Less: Depreciation and amortization expense	**$**	**(6)**	$ (48)	$ 42	88%
Less: Stock-based compensation expense	**$**	**(1,263)**	$ (1,367)	$ 104	8%
Sales and Marketing (cash operating cost)	**$**	**11,582**	$ 11,489	$ 93	1%

Sales and Marketing (cash operating cost) is a non-GAAP measure. We use certain Non-GAAP measures to assist in assessing our financial performance. Non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. Sales and Marketing (cash operating cost) adjusts Sales and marketing expense for depreciation and amortization expense and stock-based compensation expense. See the reconciliation of the adjustments to Sales and marketing expense in the table above.

Sales and marketing expenses for the three months ended December 31, 2022, were $3.4 million, relatively consistent with the corresponding period of 2021. Excluding stock-based compensation expense, sales and marketing cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) was $3.2 million in the fourth quarter of 2022, relatively consistent with the fourth quarter of 2021.

Sales and marketing expenses for the year ended December 31, 2022, were $12.9 million, relatively consistent with the corresponding period of 2021. Excluding stock-based compensation expense, sales and marketing cash operating costs (see Supplemental Non-GAAP Measures and Reconciliations) was $11.6 million in 2022, relatively consistent with 2021.

Stock-based compensation expense included in sales and marketing expense for the three months and year ended December 31, 2022, were $0.2 million and $1.3 million, respectively, relatively consistent with the corresponding periods of 2021.

Other operating expenses for the three months and year ended December 31, 2022, were $5.2 million and $8.2 million, respectively, compared to $1.6 million and $2.3 million, respectively, for the corresponding periods of 2021. The following table provides a breakdown of other expense for the reported periods:

(Expressed in thousands of U.S. dollars)		Three months ended December 31,			
		2022	2021	$ Change	% Change
Impairment loss on trade receivables	**$**	**73**	$ 11	$ 62	564%
Restructuring and related costs		**4,972**	9	4,963	55,144%
Acquisition related costs		**106**	1,580	(1,474)	(93%)
Other operating expenses	**$**	**5,151**	$ 1,600	$ 3,551	222%

(Expressed in thousands of U.S. dollars)		Year ended December 31,			
		2022	2021	$ Change	% Change
Impairment loss on trade receivables	**$**	**73**	$ 54	$ 19	35%
Restructuring and related costs		**5,317**	156	5,161	3,308%
Acquisition related costs		**2,857**	2,115	742	35%
Other operating expenses	**$**	**8,247**	$ 2,325	$ 5,922	255%

Restructuring and related costs for the three months and year ended December 31, 2022, were $5.0 million and $5.3 million, respectively, compared to nominal amounts in 2021, and in 2022 consist primarily of expenses as a result of the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K. including contract exit and modification costs, grant adjustment charges, personnel change costs, and legal and advisory costs, net of expected recoveries.

Acquisition related costs for the three months and year ended December 31, 2022, were $0.1 million and $2.9 million, respectively, compared to $1.6 million and $2.1 million, respectively, for the corresponding of 2021, and consist primarily of legal, advisory, and transaction related costs incurred due to certain corporate development activities.

Net impairment loss (recovery) on trade receivables for the three months and year ended December 31, 2022, and 2021 were nominal. If we recover on an impaired trade receivable through legal or other means, the recovered amount is recognized in the period of recovery as a reversal of the impairment loss.

Finance income (loss) and other for the three months and year ended December 31, 2022, was $15.7 million and ($2.1) million, respectively, compared to ($11.4) million and ($8.8) million for the corresponding periods of 2021. The following table provides a breakdown of finance and other income (loss) for the reported periods:

(Expressed in thousands of U.S. dollars)	Three months ended December 31,			
	2022	2021	$ Change	% Change
Employee future benefit plan expense	**$ (22)**	$ (34)	$ 12	35%
Investment and other income (loss)	**9,793**	1,032	8,761	849%
Mark to Market gain (loss) on financial assets	**2,900**	(10,288)	13,188	128%
Foreign exchange gain (loss)	**3,060**	(931)	3,991	429%
Government levies	**—**	(1,145)	1,145	100%
Finance income (loss) and other	**$ 15,731**	$ (11,366)	$ 27,097	238%

(Expressed in thousands of U.S. dollars)	Year ended December 31,			
	2022	2021	$ Change	% Change
Employee future benefit plan expense	**$ (189)**	$ (251)	$ 62	25%
Investment and other income (loss)	**19,610**	3,743	15,867	424%
Mark to Market gain (loss) on financial assets	**(16,877)**	(9,024)	(7,853)	(87%)
Foreign exchange gain (loss)	**(4,546)**	(1,336)	(3,210)	(240%)
Government levies	**(100)**	(1,945)	1,845	95%
Finance income (loss) and other	**$ (2,102)**	$ (8,813)	$ 6,711	76%

Employee future benefit plan expense for the year ended December 31, 2022, was ($0.2) million, relatively consistent with the corresponding period, and consists primarily of interest cost on plan obligations over the expected return on plan assets on a curtailed defined benefit pension plan for certain former United States employees.

Investment and other income for the three months and ended year ended December 31, 2022, was $9.8 million and $19.6 million, respectively, compared to $1.0 million and $3.7 million, respectively, for the

corresponding periods of 2021. Amounts were earned on our cash, cash equivalents and short-term investments and have changed proportionately with the overall increase in market interest rates during 2022 and the relative change in our overall average monthly cash balances.

Mark to market gain (loss) on financial assets for the three months and year ended December 31, 2022, was $2.9 million and ($16.9) million, respectively, compared to ($10.3) million and ($9.0) million, respectively, for the corresponding periods of 2021. Mark to market gain (loss) in 2022 consist primarily of changes in the fair value of our long-term financial investments including Forsee Power and certain hydrogen infrastructure and growth equity funds. Mark to market gains and losses are also impacted by the conversion of these long-term financial assets from their respective European Euro or Great British pound denominated investment to the U.S. dollar.

Foreign exchange gains (losses) for the three months and year ended December 31, 2022, were $3.1 million and ($4.5) million, respectively, compared to ($0.9) million and ($1.3) million, respectively, for the corresponding periods of 2021. Foreign exchange gains and losses are attributable primarily to the effect of the changes in the value of the Canadian dollar, relative to the U.S. dollar, on our Canadian dollar-denominated net monetary position. Foreign exchange gains and losses are also impacted by the conversion of Ballard Power Systems Europe A/S' assets and liabilities from the Danish Kroner to the U.S. dollar at exchange rates in effect at each reporting date are recorded in other comprehensive income (loss).

Government levies for the three months and year ended December 31, 2022, was nil and ($0.1) million, respectively, compared to ($1.1) million and ($1.9) million, respectively, for the corresponding periods of 2021. Government levies relate primarily to withholding taxes deducted from proceeds earned on certain commercial contracts.

Finance expense for the three months and year ended December 31, 2022, was ($0.3) million and ($1.3) million, respectively, relatively consistent with the corresponding periods of 2021. Finance expense represents the interest expense incurred on our right-of-use assets with a lease term of greater than 12-months, including our head office building, manufacturing facility, and related storage facilities in Burnaby, British Columbia, as well as similar right-of-use assets in our subsidiaries.

Equity in income (loss) of investment in joint venture and associates for the three months and year ended December 31, 2022, was ($6.8) million and ($11.6) million, respectively, compared to ($4.9) million and ($16.1) million, respectively, for the corresponding periods of 2021. Equity in loss of investment in joint venture and associates relates to the pickup of 49% of the net income (loss) of Weichai Ballard JV due to our 49% ownership position, and 10% of the net income (loss) of Synergy Ballard JVCo due to our 10% ownership position. Both investments in China are accounted for using the equity method of accounting.

The loss of investment in joint venture and associates in 2022 and 2021 is primarily attributed to the operations of Weichai Ballard JV and includes research and product development expenses in the periods consisting primarily of amounts expended on the ongoing $90 million technology transfer agreement with Ballard as Weichai Ballard JV continues to establish operations. Weichai Ballard JV

manufactures Ballard's next-generation LCS bi-polar plates, fuel cell stacks and LCS-based power modules for bus, commercial truck, and forklift applications with certain exclusive rights in China.

Recovery on settlement of contingent consideration for the three months and year ended December 31, 2022 was $9.9 million in each of the periods and consists of a recovery on the cancellation of certain contingent and outstanding cash milestones no longer payable from the acquisition of Ballard Motive Solutions which was acquired in November 2021. The contingent cash milestones were terminated concurrent with the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K. in the fourth quarter of 2022.

Impairment charges on intangible assets for the three months and year ended December 31, 2022 was ($13.0) million in each of the periods and consists of a write-down of acquired technology, customer contract, and non-compete intangible assets to their estimated fair value of $2.5 million as a result of the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K. in the fourth quarter of 2022.

Income tax recovery (expense) for the three months and year ended December 31, 2022 was $3.0 million and $3.5 million, respectively, compared to $0.2 million for the corresponding periods of 2021. Income tax recovery relates primarily to a recovery of estimated future income taxes owing from the acquisition of Arcola as a result to the post-acquisition restructuring of operations and resulting impairment of intangible assets in the fourth quarter of 2022 at Ballard Motive Solutions in the U.K.

5.5 Summary of Quarterly Results

The following table provides summary financial data for our last eight quarters:

(Expressed in thousands of U.S. dollars, except per share amounts and weighted average shares outstanding which are expressed in thousands)	Quarter ended,			
	Dec 31, 2022	Sep 30, 2022	Jun 30, 2022	Mar 31, 2022
Revenues	$ 20,464	$ 21,343	$ 20,932	$ 21,047
Net loss from continuing operations	$ (34,427)	$ (42,881)	$ (55,791)	$ (40,395)
Net loss from continuing operations per share, basic and diluted	$ (0.12)	$ (0.14)	$ (0.19)	$ (0.14)
Weighted average common shares outstanding	298,324	298,181	298,155	297,825

	Dec 31, 2021	Sep 30, 2021	Jun 30, 2021	Mar 31, 2021
Revenues	$ 36,705	$ 25,220	$ 24,961	$ 17,619
Net loss from continuing operations	$ (43,836)	$ (30,844)	$ (21,913)	$ (17,802)
Net loss from continuing operations per share, basic and diluted	$ (0.15)	$ (0.10)	$ (0.07)	$ (0.06)
Weighted average common shares outstanding	297,655	297,612	297,569	288,209

Summary of Quarterly Results: There were no significant seasonal variations in our quarterly results. Variations in our net loss for the above periods were affected primarily by the following factors:

- **Revenues**: Variations in fuel cell product and service revenues reflect the demand and timing of our customers' fuel cell vehicle, bus, and fuel cell product deployments as well as the demand and timing of their engineering services projects. Variations in fuel cell product and service revenues also reflect the timing of work performed and the achievements of milestones under long-term fixed price contracts.

- **Operating expenses**: Operating expenses were negatively impacted in the fourth quarter of 2022 by restructuring related costs of ($5.0) million due to the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K, and negatively impacted as of the fourth quarter of 2021 by the acquisition and integration of Ballard Motive Solutions (formerly Arcola). Operating expenses also include the impact of changes in the value of the Canadian dollar, versus the U.S. dollar, on our Canadian dollar denominated expenditures.
- **Net loss:** Net loss is impacted by the above noted impacts on Revenues and Operating expenditures. Net loss in the fourth quarter of 2022 was negatively impacted by intangible asset impairment charges of ($13.0) million and positively impacted by the recovery on settlement of contingent consideration of $9.9 million, both items arising from the post-acquisition restructuring of operations at Ballard Motive Solutions in the U.K. Net loss in the fourth quarter of 2022, the third quarter of 2022, the second quarter of 2022, the first quarter of 2022, and the fourth quarter of 2021 was also impacted by mark to market gains (losses) on financial assets of $2.9 million, $1.7 million, ($12.9) million, ($8.6) million, and ($10.3) million, respectively, related primarily to our investment in Forsee Power and certain hydrogen infrastructure and growth equity funds.

6. CASH FLOWS, LIQUIDITY AND CAPITAL RESOURCES

6.1 Summary of Cash Flows

Cash and cash equivalents were $913.7 million as of December 31, 2022, compared to $1,123.9 million as of December 31, 2021. The ($210.2) million decrease in cash and cash equivalents in 2022 was driven by net cash operating losses (excluding non-cash items) of ($121.7) million, net working capital outflows of ($10.4) million, equity investments in Weichai Ballard JV of ($9.3) million, purchases of property, plant and equipment and intangible assets of ($34.5) million, subsequent Milestone cash acquisition investment payments for Ballard Motive Solutions of ($14.9) million, long-term financial investments of ($17.9) million consisting of an investment in Quantron of ($5.2) million, Wisdom of ($10.0) million, and investments in certain hydrogen infrastructure and growth equity funds of ($2.7) million, and by finance lease repayments of ($3.3) million.

6.2 Cash Provided by (Used by) Operating Activities

(Expressed in thousands of U.S. dollars)	Three months ended December 31,		
	2022	2021	$ Change
Cash Operating Loss	**$ (27,085)**	$ (23,539)	$ (3,546)
Change in Working Capital:			
Trade and other receivables	**654**	(3,019)	3,673
Inventory	**585**	(1,052)	1,637
Prepaid expenses and other current assets	**(142)**	(1,336)	1,194
Trade and other payables	**7,782**	(507)	8,288
Deferred revenue	**(2,677)**	(924)	(1,753)
Warranty provision	**(300)**	(299)	(1)
	5,902	(7,137)	13,038
Cash Used by Operating Activities	**$ (21,183)**	$ (30,676)	$ 9,493

For the three months ended December 31, 2022, cash used by operating activities was ($21.2) million compared to ($30.7) million for the three months ended December 31, 2021. The $9.5 million decrease in cash used by operating activities in the fourth quarter of 2022, as compared to the fourth quarter of 2021, was driven by the decrease in working capital requirements of $13.0 million, partially offset by the increase in cash operating losses of ($3.5) million.

The ($3.5) million increase in cash operating losses in the fourth quarter of 2022 was driven by the increase in Adjusted EBITDA loss of ($20.9) million offset by the impact of several items included in cash operating losses but excluded from Adjusted EBITDA loss or vice-versa including: higher finance and other income (excluding mark to market fair value changes on investments) of $12.8 million, higher restructuring related costs of ($5.0) million, lower acquisition related costs of $1.5 million, higher equity investment losses in joint venture and associates of $1.9 million, and higher income tax recoveries of $2.8 million.

The total change in working capital of $5.9 million in the fourth quarter of 2022 was driven by higher accounts payable and accrued liabilities of $7.8 million primarily due to the timing of supplier payments, by lower accounts and contract receivables of $0.7 million primarily due to the timing of revenues and the related customer collections, and by lower inventory of $0.6 million. These fourth quarter of 2022 inflows were partially offset by lower deferred revenue of ($2.7) million as pre-payments on certain Heavy-Duty Motive and Technology Solutions contracts were recognized.

The total change in working capital of ($7.1) million in the fourth quarter of 2021 was driven by higher accounts and contract receivables of ($3.0) million primarily due to the timing of revenues and the related customer collections, by higher inventory of ($1.1) million primarily to support expected Heavy-Duty Motive shipments in 2022 and to help mitigate ongoing COVID-19 supply chain disruptions, and by higher prepaid expenses of ($1.3) million.

(Expressed in thousands of U.S. dollars)	Year ended December 31,		
	2022	2021	$ Change
Cash Operating Loss	**$ (121,743)**	$ (68,876)	$ (52,867)
Change in Working Capital:			
Trade and other receivables	**(2,945)**	9,640	(12,585)
Inventory	**(6,532)**	(22,996)	16,464
Prepaid expenses and other current assets	**(1,668)**	(810)	(858)
Trade and other payables	**2,182**	1,408	774
Deferred revenue	**(4,079)**	2,221	(6,300)
Warranty provision	**2,614**	(1,063)	3,677
	(10,428)	(11,600)	1,172
Cash Used by Operating Activities	**$ (132,171)**	$ (80,476)	$ (51,695)

For the year ended December 31, 2022, cash used by operating activities was ($132.2) million compared to ($80.5) million for 2021. The ($51.7) million increase in cash used by operating activities in 2022, as compared to 2021, was driven by the increase in cash operating losses of ($52.9) million, partially offset by the decrease in working capital requirements of $1.2 million.

The ($52.9) million increase in cash operating losses in 2022 was driven primarily by the increase in Adjusted EBITDA loss of ($61.8) million. This net (loss) increase in 2022 was also impacted by several items included in cash operating losses but excluded from Adjusted EBITDA loss or vice-versa including: higher finance and other income (excluding mark to market fair value changes on investments) of $12.7 million, higher restructuring related costs of ($5.2) million, higher acquisition related costs of ($0.7) million, and lower equity investment losses in joint venture and associates of ($4.5) million.

The total change in working capital of ($10.4) million in 2022 was driven by higher inventory of ($6.5) million primarily to support expected Heavy-Duty Motive shipments in 2023 and to help mitigate ongoing supply chain disruptions, by lower deferred revenue of ($4.1) million as pre-payments on certain Heavy-Duty Motive and Technology Solutions contracts were recognized, by higher accounts and contract receivables of ($2.9) million primarily as a result of the timing of revenues and the related customer collections, and by higher prepaid expenses of ($1.7) million primarily due to the timing of annual insurance renewals. These 2022 outflows were partially offset by higher warranty provisions of $2.6 million and by higher accounts payable and accrued liabilities of $2.2 million primarily due to the timing of supplier payments.

The total change in working capital of ($11.6) million in 2021 was driven by higher inventory of ($23.0) million primarily to support expected Heavy-Duty Motive shipments in 2022 and to help mitigate ongoing COVID-19 supply chain disruptions. These working capital outflows in 2021 were partially offset by lower accounts and contract receivables of $9.6 million primarily as a result of the timing of revenues and the related customer collections, by higher deferred revenue of $2.2 million as we received pre-payments on certain Heavy-Duty Motive and Technology Solutions contracts, and by higher accounts payable and accrued liabilities of $1.4 million as a result of the timing of payments for inventory purchases and annual compensation awards.

6.3 Cash Provided by (Used by) Investing Activities

Investing activities resulted in net cash outflows of ($20.1) million and ($75.6) million, respectively, for the three months and year ended December 31, 2022, compared to net cash outflows of ($67.4) million and ($85.6) million, respectively, for the corresponding periods of 2021.

Investing activities in the fourth quarter of 2022 of ($20.1) million consist of additional long-term investments in Quantron of ($5.2) million and in certain hydrogen infrastructure and growth equity funds of ($0.1) million, and by capital expenditures of ($14.8) million incurred primarily for production and test equipment and certain intangible assets.

Investing activities in the fourth quarter of 2021 of ($67.4) million consist primarily of a long-term investment in Forsee Power of ($43.8) million, long-term investment in certain hydrogen infrastructure and growth equity funds of ($8.0) million, initial cash acquisition investment in Arcola of ($7.2) million, investments in associated companies of ($3.3) million for the eleventh equity contribution in our 49% investment in Weichai Ballard JV, and by capital expenditures of ($5.6) million incurred primarily for production and test equipment and certain intangible assets, partially offset by proceeds received on the sale of short-term investments of $0.3 million.

Investing activities in 2022 of ($75.6) million consist of additional long-term investments in Quantron, Wisdom, and in certain hydrogen infrastructure and growth equity funds of ($17.9) million, subsequent Milestone cash acquisition investment payments for Ballard Motive Solutions of ($14.9) million, investments in associated companies of ($9.3) million for the twelfth, thirteenth and fourteenth and final contracted equity contributions in our 49% investment in Weichai Ballard JV, and by capital expenditures of ($34.5) million incurred primarily for production and test equipment and certain intangible assets, partially offset by proceeds received on the sale of short-term investments of $1.0 million.

Investing activities in 2021 of ($85.6) million consist primarily of our long-term investment in Forsee Power of ($43.8) million, long-term investment in certain hydrogen infrastructure and growth equity funds of ($8.0) million, initial cash acquisition investment in Arcola of ($7.2) million, investments in associated companies of ($12.4) million for the eighth, ninth, tenth, and eleventh equity contributions in our 49% investment in Weichai Ballard JV, by capital expenditures of ($14.7) million incurred primarily for production and test equipment and certain intangible assets, partially offset by proceeds received on the sale of short-term investments of $0.3 million.

6.4 Cash Provided by (Used by) Financing Activities

Financing activities resulted in net cash inflows (outflows) of ($0.8) million and ($2.4) million, respectively, for the three months and year ended December 31, 2022, compared to net cash inflows (outflows) of ($0.5) million and $526.9 million, respectively, for the corresponding periods of 2021.

Financing activities in the fourth quarter of 2022 of ($0.8) million consist of finance lease payments of ($1.0) million, partially offset by proceeds from the exercise of share purchase options of $0.1 million. Financing activities in the fourth quarter of 2021 of ($0.5) million consist of proceeds from the exercise of share purchase options of $0.3 million, which were more than offset by finance lease payments of ($0.8) million.

Financing activities in 2022 of ($2.4) million consist of finance lease payments of ($3.3) million, partially offset by proceeds from the exercise of share purchase options of $0.9 million. Financing activities in

2021 of $526.9 million consist of net proceeds from the sale of Common Shares of $527.3 million from the $550 million Offering, proceeds from the exercise of share purchase options of $2.4 million, partially offset by finance lease payments of ($2.8) million.

6.5 Liquidity and Capital Resources

As of December 31, 2022, we had total liquidity of $915.7 million. We measure liquidity as our net cash and short-term investment position, consisting of the sum of our cash, cash equivalents and short-term investments of $915.7 million, as we have no bank debt.

We have a Letter of Guarantee Facility (the “LG Facility”) enabling our bank to issue letters of guarantees, standby letters of credit, performance bonds, counter guarantees, counter standby letter of credit or similar credits on our behalf to from time to time up to a maximum of $2.0 million. As of December 31, 2022, there was nil outstanding on the LG Facility. We also have a $25 million Foreign Exchange Facility (the “FX Facility”) enabling us to enter into foreign exchange currency contracts (at face value amounts in excess of the FX Facility) secured by a guarantee from Export Development Canada. As of December 31, 2022, we had outstanding foreign exchange currency contracts to purchase a total of Canadian $38.0 million under the FX Facility.

Our liquidity objective is to maintain cash balances sufficient to fund at least six quarters of forecasted cash used by operating activities and contractual commitments. Our strategy to attain this objective is to continue our drive to attain profitable operations that are sustainable by executing a business plan that continues to focus on Fuel Cell Products and Services revenue growth, improving overall gross margins, maintaining discipline over Cash Operating Costs, managing working capital and capital expenditure requirements, and securing additional financing to fund our operations as needed until we do achieve profitable operations that are sustainable. We believe that we have adequate liquidity in cash and working capital to achieve our liquidity objective.

Failure to achieve or maintain this liquidity objective could have a material adverse effect on our financial condition and results of operations including our ability to continue as a going concern. There are also various risks and uncertainties affecting our ability to achieve this liquidity objective including, but not limited to, the market acceptance and rate of commercialization of our products, the ability to successfully execute our business plan, and general global economic conditions, certain of which are beyond our control. While we continue to make significant investments in product development and market development activities necessary to commercialize our products, make increased investments in working capital and capital expenditures as we grow our business, and make ongoing capital contributions in support of our investment in certain hydrogen infrastructure and growth equity funds, our actual liquidity requirements will also vary and will be impacted by future acquisitions and strategic partnerships and investments, our relationships with our lead customers and strategic partners including their ability to successfully finance and fund their operations and programs and agreements with us, our success in developing new channels to market and relationships with customers, our success in generating revenue growth from near-term product, service and licensing opportunities, our success in managing our

operating expense and working capital requirements, foreign exchange fluctuations, and the progress and results of our research, development and demonstration programs.

We may also choose to pursue additional liquidity through the issuance of debt or equity in private or public market financings. To enable the timely issuance of equity securities in the public market, we renewed our Base Shelf Prospectus on file with the securities regulators in Canada in March 2021. The Base Shelf Prospectus, which is effective for 25-months ending in April 2023, was filed in each of the provinces and territories of Canada, and a corresponding shelf registration statement on Form F-10 was also filed with the United States Securities and Exchange Commission. These filings will enable offerings of securities up to an aggregate initial offering price of $1.5 billion at any time during the 25-month period that the Base Shelf Prospectus remains effective. No offerings of securities under this Base Shelf Prospectus have been issued to date.

No assurance can be given that any such additional liquidity will be available or that, if available, it can be obtained on terms favorable to the Company. If any securities are offered under the Base Shelf Prospectus, the terms of any such securities and the intended use of the net proceeds resulting from such offering would be established at the time of any offering and would be described in a supplement to the Base Shelf Prospectus filed with applicable Canadian securities regulators and/or the SEC, respectively, at the time of such an offering.

7. OTHER FINANCIAL MATTERS

7.1 Off-Balance Sheet Arrangements and Contractual Obligations

Periodically, we use forward foreign exchange contracts to manage our exposure to currency rate fluctuations. We record these contracts at their fair value as either assets or liabilities on our statement of financial position. Any changes in fair value are either (i) recorded in other comprehensive income if formally designated and qualified under hedge accounting criteria; or (ii) recorded in profit or loss (general and administrative expense) if either not designated, or not qualified, under hedge accounting criteria. As of December 31, 2022, we had outstanding foreign exchange currency contracts to purchase a total of Canadian $38.0 million at an average rate of 1.3101 Canadian per U.S. dollar, resulting in an unrealized loss of Canadian ($1.2) million as of December 31, 2022. The outstanding foreign exchange currency contracts have not been designated under hedge accounting.

As of December 31, 2022, we did not have any other material obligations under guarantee contracts, retained or contingent interests in transferred assets, outstanding derivative instruments, or non-consolidated variable interests.

As of December 31, 2022, we had the following contractual obligations and commercial commitments calculated on a non-discounted basis (with the exception of Finance leases):

(Expressed in thousands of U.S. dollars)		Payments due by period,			
Contractual Obligations	**Total**	Less than one year	1-3 years	4-5 years	After 5 years
Finance leases	**$ 18,196**	$ 4,854	$ 7,891	$ 4,903	$ 548
Asset retirement obligations	**1,901**	-	1,901	-	-
Long-term investment (HyCap)	**21,388**	21,388	-	-	-
Long-term investment (Clean H2)	**30,935**	5,337	25,598	-	-
Capital contributions to Weichai Ballard JV	-	-	-	-	-
Total contractual obligations	**$ 72,420**	$ 31,579	$ 35,390	$ 4,903	$ 548

Long-term investments include an investment committing us to be a limited partner in HyCap, a newly created hydrogen infrastructure and growth equity fund. HyCap is to invest in a combination of hydrogen infrastructure projects and investments in companies along the hydrogen value chain. We have committed to investing £25.0 million (including £7.2 million invested as of December 31, 2022) into HyCap.

Long-term investments also include an investment committing us to be a limited partner in Clean H2, another newly created hydrogen infrastructure and growth equity fund. Clean H2 is to invest in a combination of hydrogen infrastructure projects and investments in companies along the hydrogen value chain. We have committed to investing €30.0 million (including €1.0 million invested as of December 31, 2022) into Clean H2.

In addition, we have outstanding commitments of $42.6 million as of December 31, 2022, related primarily to purchases of property, plant, and equipment. Capital expenditures and expenditures on other intangible assets pertain to our regular operations and are expected to be funded through cash on hand.

In connection with the acquisition of intellectual property from UTC in 2014, we have a royalty obligation in certain circumstances to pay UTC a portion of any future intellectual property sale and licensing income generated from certain of our intellectual property portfolio for a period of 15-years expiring in April 2029. No royalties were paid to UTC for the years ended December 31, 2022 and 2021.

As of December 31, 2022, we retain a previous funding obligation to pay royalties of 2% of revenues (to a maximum of Canadian $5.4 million) on sales of certain fuel cell products for commercial distributed utility applications. No royalties have been incurred to date as a result of this agreement.

We also retain a previous funding obligation to pay royalties of 2% of revenues (to a maximum of Canadian $2.2 million) on sales of certain fuel cell products for commercial transit applications. No royalties have been incurred to date due to this agreement.

In the ordinary course of business or as required by certain acquisition or disposition agreements, we are periodically required to provide certain indemnities to other parties. As of December 31, 2022, we have not accrued any significant amount owing, or receivable, due to any indemnity agreements undertaken in the ordinary course of business.

7.2 Related Party Transactions

Related parties include our 49% owned equity accounted investee, Weichai Ballard JV, and our 10% owned equity accounted investee, Synergy Ballard JVCo. Transactions between us and our subsidiaries are eliminated on consolidation. For the three and year ended December 31, 2022, and 2021, related party transactions and balances with Weichai Ballard JV and Synergy Ballard JVCo total as follows:

(Expressed in thousands of U.S. dollars)	Three Months Ended December 31,	
Transactions with related parties	**2022**	2021
Revenues	**$ 1,232**	$ 16,380
Cost of goods sold and operating expense	**$ 1,253**	$ -

(Expressed in thousands of U.S. dollars)	Year Ended December 31,	
Transactions with related parties	**2022**	2021
Revenues	**$ 8,169**	$ 38,680
Cost of goods sold and operating expense	**$ 3,225**	$ -

(Expressed in thousands of U.S. dollars)	As at Dec 31,	As at Dec 31,
Balances with related parties	**2022**	2021
Accounts receivable	**$ 13,419**	$ 10,893
Investments	**$ 24,026**	$ 28,982
Deferred revenue	**$ (2,095)**	$ (2,746)

We also provide key management personnel, being board directors and executive officers, certain benefits, in addition to their salaries. Key management personnel also participate in the Company's share-based compensation plans. Key management personnel compensation is summarized in note 28 to our annual consolidated financial statements for the year ended December 31, 2022.

7.3 Outstanding Share and Equity Information

As of March 16, 2023	
Common share outstanding	298,443,438
Options outstanding	4,719,912
DSUs outstanding	707,270
RSUs / PSUs outstanding (subject to vesting and performance criteria)	956,657

8. USE OF PROCEEDS

8.1 Reconciliation of Use of Proceeds from Previous Financings

During 2021 and 2020, we completed the following offerings of our common shares ("Common Shares"):

- On February 23, 2021, we closed a bought deal offering of 14.87 million Common Shares at a price of $37.00 per Common Share for gross proceeds of $550.2 million and net proceeds of $527.3 million (the "2021 Offering").

- On November 27, 2020, we closed a bought deal offering of 20.9 million Common Shares at a price of $19.25 per Common Share for gross proceeds of $402.5 million and net proceeds of $385.8 million (the “2020 Offering”).
- On September 1, 2020, we announced an at-the-market equity program to issue a total of 16.45 million Common Shares from treasury (the “$250 million ATM Program”). The 16.45 million Common Shares issued under the $250 million ATM Program were sold in the third and fourth quarters of 2020 at prevailing market prices at the time of sale for total gross proceeds of $250 million and total net proceeds of $244.1 million.
- On March 10, 2020, we announced an at-the-market equity program to allow the issuance of up to $75 million of Common Shares from treasury (the “$75 million ATM Program” and together with the $250 million ATM Program, the “2020 ATM Programs”). The 8.2 million Common Shares issued under the $75 million ATM Program were sold in the first half of 2020 at prevailing market prices at the time of sale for total gross proceeds of $66.7 million and total net proceeds of $64.7 million.

The net proceeds from the 2021 Offering and the 2020 Offering of $527.3 million and $385.8 million, respectively, were intended to be used to further strengthen the Company’s financial position, thereby providing additional flexibility to fund growth strategies, including through activities such as product innovation, investments in production capacity expansion and localization, future acquisitions and strategic partnerships and investments. The net proceeds from the 2020 ATM Programs of $308.8 million were intended to be used for general corporate purposes. Pending their use, we disclosed our intention to invest the net proceeds from the 2021 Offering and the 2020 Offering in short-term, investment grade, interest bearing instruments or to hold them as cash and cash equivalents.

The following tables sets out a comparison of the Company’s disclosed expected use of net proceeds from the 2020 Offering and the 2020 ATM Programs to the actual use of such net proceeds to December 31, 2022. As of December 31, 2022, the net proceeds of $527.3 million from the 2021 Offering and residual unused amounts from the 2020 Offering and the 2020 ATM Programs were held in interest bearing cash accounts.

2020 Offering Net Proceeds $385.8M			
Intended Use of Net Proceeds: Further strengthen the Company's balance sheet, thereby providing additional flexibility to fund growth strategies, including through activities such as product innovation, investments in production capacity expansion and localization, future acquisitions and strategic partnerships and investments.			
Actual Use of Net Proceeds (expressed in thousands of U.S. dollars)		**Variance – (Over)/Under Expenditures**	**Explanation of Variance**
Research and Product Development (cash Operating cost) expenditures including product development of next generation fuel cell stacks and modules	**$101,201**	N/A	N/A
Investments in property, plant and equipment and other intangible assets including production capacity expansion and localization	**$49,184**	N/A	N/A
Ballard Motive Solutions acquisition (initial and subsequent cash costs) and acquisition related expenses	**$24,768**	N/A	N/A
Strategic partnerships and investments including Quantron, Wisdom, Forsee Power, H2Cap, Clean H2, Weichai Ballard JVCo, and acquisition related expenses	**$86,103**	N/A	N/A
	$261,256		

2020 ATM Programs Net Proceeds $308.8M			
Intended Use of Net Proceeds: General Corporate Purposes			
Actual Use of Net Proceeds (expressed in thousands of U.S. dollars)		**Variance – (Over)/Under Expenditures**	**Explanation of Variance**
General and Administration (cash Operating cost) expenditures	**$29,545**	N/A	N/A
Sales and Marketing (cash Operating cost) expenditures	**$14,625**	N/A	N/A
Restructuring related expenditures	**$5,317**	N/A	N/A
Working capital requirements	**$17,569**	N/A	N/A
Lease liability principal repayments	**$4,055**	N/A	N/A
	$71,110		

9. ACCOUNTING MATTERS

9.1 Overview

Our consolidated financial statements are prepared in accordance with IFRS, which require us 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 those 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.

9.2 Critical Judgments in Applying Accounting Policies

Critical judgments that we have made in the process of applying our accounting policies and that have the most significant effect on the amounts recognized in the consolidated financial statements is limited to our assessment of our ability to continue as a going concern (See Note 2 (e) to our consolidated financial statements).

Our significant accounting policies are detailed in note 4 to our annual consolidated financial statements for the year ended December 31, 2022, except as described below. Effective January 1, 2022, we have initially adopted *Onerous Contracts – Cost of Fulfilling a Contact (Amendments to IAS 37).* The effect of initially applying the *Amendments to IAS 37* had an impact on our financial statements which is detailed in

Section *9.4 Recently Adopted Accounting Policy Changes*. A number of other new standards and interpretations are also effective from January 1, 2022, but they did not have a material impact on our financial statements.

9.3 Key Sources of Estimation Uncertainty

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

REVENUE RECOGNITION

Revenues are generated 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 service 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. Revenue recognition for standard product sales contracts does not usually involve significant estimates.

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. Revenue recognition for standard license and sale agreements does not usually involve significant estimates.

On cost-plus reimbursable contracts, revenues are recognized as costs are incurred, and include applicable fees earned as services are provided. Revenue recognition for cost-plus reimbursable contracts does not usually involve significant estimates.

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 Company 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. If 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.

- 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.
- The determination of potential revenues includes the contractually agreed amount and may be adjusted based on the estimate of our attainment on achieving certain defined contractual milestones. Management's estimation is required in determining the amount of consideration for which the Company 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 our estimates of the work required to complete a contract may change.

During the three months and year ended December 31, 2022, and 2021, there were no significant adjustments to revenues relating to revenue recognized in a prior period.

ASSET IMPAIRMENT

The carrying amounts of our 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 at least 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. 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, our revenue growth rate could be lower than projected due to economic, industry or competitive factors, or the discount rate used in our value in use model could increase due to a change in market interest rates. In addition, future goodwill impairment charges may be necessary if our market capitalization declined due to a decrease in the trading price of our common stock, which could negatively impact the fair value of our business.

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 net 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.

As of December 31, 2021, our consolidated goodwill balance of $64.3 million relates solely to our Fuel Cell Products and Services segment. We perform the annual review of goodwill as at December 31 of each year, more often if events or changes in circumstances indicate that it might be impaired. Under IFRS, the annual review of goodwill 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. Our fair value less costs to sell test is in effect a modified market capitalization assessment, whereby we calculate the fair value of the Fuel Cell Products and Services segment by first calculating the value of the Company at December 31, 2022 based on the average closing share price in the month of December, add a reasonable estimated control premium to determine the Company'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 from this enterprise value to arrive at the fair value of the Fuel Cell Products and Services segment. As a result of this assessment, we have determined that the fair value of the Fuel Cell Products and Services segment exceeds its carrying value as of December 31, 2022, indicating that no goodwill impairment charge is required for 2022.

In addition to the above goodwill impairment test, we perform a quarterly assessment of the carrying amounts of our non-financial assets (other than inventories) to determine whether there is any indication of impairment. During the three months and year ended December 31, 2022, impairment charges of ($13.0) million were recognized on our non-financial assets (other than inventories) related to impaired intangible assets primarily as a result of the post-acquisition restructuring of operations at Ballard Motive Solutions.

WARRANTY PROVISION

A provision for warranty costs is recorded on product sales at the time of shipment. In establishing the accrued warranty liabilities, we estimate the likelihood that products sold will experience warranty claims and the cost to resolve claims received.

In making such determinations, we use estimates based on the nature of the contract and past and projected experience with the products. Should these estimates prove to be incorrect, we may incur costs different from those provided for in our warranty provisions. During the three months and year ended December 31, 2022, we recorded provisions to accrued warranty liabilities of $0.9 million and $4.6 million,

respectively, for new product sales, compared to $1.1 million and $2.7 million, respectively, for the three months and year ended December 31, 2021.

We review our warranty assumptions and make adjustments to accrued warranty liabilities quarterly based on the latest information available and to reflect the expiry of contractual obligations. Adjustments to accrued warranty liabilities are recorded in cost of product and service revenues. As a result of these reviews and the resulting adjustments, our warranty provision and cost of revenues for the three months and year ended December 31, 2022, were adjusted downwards (upwards) by $0.5 million and ($0.4) million, respectively, compared to adjustments downwards (upwards) by $0.2 million and ($0.3) million, respectively, for the three months and year ended December 31, 2021.

INVENTORY PROVISION

In determining the lower of cost and net realizable value of our inventory and establishing the appropriate provision for inventory obsolescence, we estimate the likelihood that inventory carrying values will be affected by changes in market pricing or demand for our products and by changes in technology or design which could make inventory on hand obsolete or recoverable at less than cost. We perform regular reviews to assess the impact of changes in technology and design, sales trends, and other changes on the carrying value of inventory. Where we determine that such changes have occurred and will have a negative impact on the value of inventory on hand, appropriate provisions 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. During the three months ended December 31, 2022, net negative inventory adjustments of ($1.3) million and ($4.6) million, respectively, were recorded as a recovery (charge) to cost of product and service revenues, compared to net negative inventory adjustments of ($0.2) million and ($1.1) million, respectively, in the three months and year ended December 31, 2021.

EMPLOYEE FUTURE BENEFITS

The present value of our 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.

9.4 Recently Adopted Accounting Policy Changes

Effective January 1, 2022, we have initially adopted *Onerous Contracts – Cost of Fulfilling a Contact (Amendments to IAS 37).* The effect of initially applying the *Amendments to IAS 37* had an impact on our financial statements which is described below. A number of other new standards and interpretations are also effective from January 1, 2022, but they did not have a material impact on our financial statements.

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.

On completion of a review of the Corporation's 'open' contracts as of December 31, 2021, it was determined that on adoption of the amendments to *IAS 37* on January 1, 2022, additional onerous contract costs of ($1.2) million were recognized as an opening balance adjustment to accumulated deficit in our first quarter of 2022 financial statements. As of December 31, 2022, total onerous contract cost provisions of ($4.4) million have been accrued in provisions and other current liabilities.

9.5 Future Accounting Policy Changes

The following is an overview of accounting standard changes that we will be required to adopt in future years. We do not expect to adopt any of these standards before their effective dates and we continue to evaluate the impact of these standards on our consolidated financial statements.

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* (the "2020 Amendments"), to clarify the classification of liabilities as current or non-current. On October 31, 2022, the IASB issued *Non-current Liabilities with Covenants (Amendments to IAS 1)* (the "2022 Amendments"), to improve the information a company provides about long-term debt with covenants.

For the purposes of non-current classification, the 2020 Amendments and the 2022 Amendments (collectively "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 exist at the end of the reporting period and have substance.

The Amendments reconfirmed that only covenants with which a company must comply on or before the reporting date affect the classification of a liability as current or non-current. Covenants with which a company must comply after the reporting date do not affect a liability's classification at that date. 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, 2024. Early adoption is permitted. A company that applies the 2020 amendments early is required to also apply the 2022

amendments. The extent of the impact of adoption of the amendments to *IAS 1* has not yet been determined.

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 adoption of the amendments to *IAS 8* is not expected to have a material impact on the Company's financial statements.

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.

The amendments are effective for annual periods beginning on or after January 1, 2023. Early adoption is permitted. The adoption of the amendments to *IAS 1 and IFRS Practice Statement 2* is not expected to have a material impact on the Company's financial statements.

10. SUPPLEMENTAL NON-GAAP MEASURES AND RECONCILIATIONS

10.1 Overview

In addition to providing measures prepared in accordance with GAAP, we present certain supplemental non-GAAP measures. These measures are Cash Operating Costs (including its components of research and product development (operating cost), general and administrative (operating cost) and sales and marketing (operating cost)), EBITDA and Adjusted EBITDA. These non-GAAP measures do not have any standardized meaning prescribed by GAAP and therefore are unlikely to be comparable to similar measures presented by other companies. We believe these measures are useful in evaluating the operating performance of the Company's ongoing business. These measures should be considered in addition to, and not as a substitute for, operating expenses, net income, cash flows and other measures of financial performance and liquidity reported in accordance with GAAP. The calculation of these non-GAAP measures has been made on a consistent basis for all periods presented.

10.2 Cash Operating Costs

This supplemental non-GAAP measure is provided to assist readers in determining our operating costs on an ongoing cash basis. We believe this measure is useful in assessing performance and highlighting trends on an overall basis.

We also believe Cash Operating Costs is frequently used by securities analysts and investors when comparing our results with those of other companies. Cash Operating Costs differs from the most comparable GAAP measure, operating expenses, primarily because it does not include stock-based compensation expense, depreciation and amortization, impairment losses or recoveries on trade receivables, restructuring and related costs, acquisition related costs, the impact of unrealized gains and losses on foreign exchange contracts, and financing charges. The following tables show a reconciliation of operating expenses to Cash Operating Costs for the three months and year ended December 31, 2022, and 2021:

(Expressed in thousands of U.S. dollars)	Three months ended December 31,		
Cash Operating Costs	**2022**	2021	$ Change
Total Operating Expenses	**$ 37,037**	$ 32,307	$ 4,730
Stock-based compensation expense	**(1,471)**	(2,319)	848
Impairment recovery (losses) on trade receivables	**(73)**	(11)	(62)
Acquisition related costs	**(106)**	(1,580)	1,474
Restructuring and related costs	**(4,972)**	(9)	(4,963)
Impact of unrealized gains (losses) on foreign exchange contracts	**1,057**	263	794
Depreciation and amortization	**(862)**	(2,047)	1,185
Cash Operating Costs	**$ 30,610**	$ 26,604	$ 4,006

(Expressed in thousands of U.S. dollars)	Year ended December 31,		
Cash Operating Costs	**2022**	2021	$ Change
Total Operating Expenses	**$ 145,804**	$ 102,116	$ 43,688
Stock-based compensation expense	**(9,408)**	(9,669)	261
Impairment recovery (losses) on trade receivables	**(73)**	(54)	(19)
Acquisition related costs	**(2,857)**	(2,115)	(742)
Restructuring and related costs	**(5,317)**	(156)	(5,161)
Impact of unrealized gains (losses) on foreign exchange contracts	**(862)**	(519)	(343)
Depreciation and amortization	**(8,520)**	(5,821)	(2,699)
Cash Operating Costs	**$ 118,767**	$ 83,782	$ 34,985

The components of Cash Operating Costs of research and product development (cash operating cost), general and administrative (cash operating cost), and sales and marketing (cash operating cost) differ from their respective most comparable GAAP measure of research and product development expense, general and administrative expense, and sales and marketing expense, primarily because they do not include stock-based compensation expense, depreciation and amortization expense, and acquisition related costs. A reconciliation of these respective operating expenses to the respective components of Cash Operating Costs for the three months and year ended December 31, 2022, and 2021 is included in Section 5.4 Operating Expenses and Other Items.

A breakdown of total stock-based compensation expense for the three months and year ended December 31, 2022, and 2021 are as follows:

(Expressed in thousands of U.S. dollars)		Three months ended December 31,		
Stock-based compensation expense	**2022**	2021		$ Change
Total stock-based compensation expense recorded as follows:				
Cost of goods sold	**$ —**	$ —	$	—
Research and product development expense	**1,009**	1,259		(250)
General and administrative expense	**248**	698		(450)
Sales and marketing expense (recovery)	**214**	362		(148)
Stock-based compensation expense	**$ 1,471**	$ 2,319	$	(848)

(Expressed in thousands of U.S. dollars)		Year ended December 31,		
Stock-based compensation expense	**2022**	2021		$ Change
Total stock-based compensation expense recorded as follows:				
Cost of goods sold	**$ —**	$ —	$	—
Research and product development expense	**5,305**	5,522		(217)
General and administrative expense	**2,840**	2,780		60
Sales and marketing expense (recovery)	**1,263**	1,367		(104)
Stock-based compensation expense	**$ 9,408**	$ 9,669	$	(261)

A breakdown of total depreciation and amortization expense for the three months and year ended December 31, 2022, and 2021 are as follows:

(Expressed in thousands of U.S. dollars)		Three months ended December 31,		
Depreciation and amortization expense	**2022**	2021		$ Change
Total depreciation and amortization expense recorded as follows:				
Cost of goods sold	**$ 1,966**	$ 1,225	$	741
Research and product development expense	**409**	1,458		(1,049)
General and administrative expense	**449**	577		(128)
Sales and marketing expense	**4**	12		(8)
Depreciation and amortization expense	**$ 2,828**	$ 3,272	$	(444)

(Expressed in thousands of U.S. dollars)		Year ended December 31,		
Depreciation and amortization expense	**2022**	2021		$ Change
Total depreciation and amortization expense recorded as follows:				
Cost of goods sold	**$ 4,837**	$ 3,931	$	906
Research and product development expense	**6,599**	4,101		2,498
General and administrative expense	**1,915**	1,672		243
Sales and marketing expense	**6**	48		(42)
Depreciation and amortization expense	**$ 13,357**	$ 9,752	$	3,605

10.3 EBITDA and Adjusted EBITDA

These supplemental non-GAAP measures are provided to assist readers in determining our operating performance. We believe this measure is useful in assessing performance and highlighting trends on an overall basis. We also believe EBITDA and Adjusted EBITDA are frequently used by securities analysts and investors when comparing our results with those of other companies. EBITDA differs from the most comparable GAAP measure, net loss from continuing operations, primarily because it does not include finance expense, income taxes, depreciation of property, plant and equipment, and amortization of intangible assets. Adjusted EBITDA adjusts EBITDA for stock-based compensation expense, transactional gains and losses, acquisition related costs, finance and other income, recovery on settlement of contingent consideration, asset impairment charges, and the impact of unrealized gains and losses on foreign exchange contracts. The following tables show a reconciliation of net loss to EBITDA and Adjusted EBITDA for the three months and year ended December 31, 2022, and 2021:

(Expressed in thousands of U.S. dollars)		Three months ended December 31,		
EBITDA and Adjusted EBITDA	**2022**	2021		$ Change
Net loss from continuing operations	**$ (34,427)**	$ (43,836)	$	9,409
Depreciation and amortization	**2,828**	3,272		(444)
Finance expense	**300**	313		(13)
Income taxes (recovery)	**(3,004)**	(233)		(2,771)
EBITDA	**$ (34,303)**	$ (40,484)	$	6,181
Stock-based compensation expense	**1,471**	2,319		(848)
Acquisition related costs	**106**	1,580		(1,474)
Finance and other (income) loss	**(15,731)**	11,366		(27,097)
Recovery on settlement of contingent consideration	**(9,891)**	—		(9,891)
Impairment loss on intangible assets	**13,024**	—		13,024
Impact of unrealized (gains) losses on foreign exchange contracts	**(1,057)**	(263)		(794)
Adjusted EBITDA	**$ (46,381)**	$ (25,482)	$	(12,899)

(Expressed in thousands of U.S. dollars)		Year ended December 31,		
EBITDA and Adjusted EBITDA	**2022**	2021		$ Change
Net loss from continuing operations	**$ (173,494)**	$ (114,397)	$	(59,097)
Depreciation and amortization	**13,357**	9,752		3,605
Finance expense	**1,279**	1,294		(15)
Income taxes (recovery)	**(3,536)**	(216)		(3,320)
EBITDA	**$ (162,394)**	$ (103,567)	$	(58,827)
Stock-based compensation expense	**9,408**	9,669		(261)
Acquisition related costs	**2,857**	2,115		742
Finance and other (income) loss	**2,102**	8,813		(6,711)
Recovery on settlement of contingent consideration	**(9,891)**	—		(9,891)
Impairment loss on intangible assets	**13,024**	263		12,761
Impact of unrealized (gains) losses on foreign exchange contracts	**862**	519		343
Adjusted EBITDA	**$ (144,032)**	$ (82,188)	$	(61,844)



BALLARD POWER SYSTEMS INC.

ANNUAL INFORMATION FORM

For the year ended December 31, 2022

Dated March 16, 2023

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This Annual Information Form and the documents incorporated by reference herein contain forward-looking statements that are based on the beliefs of management and reflect our current expectations as contemplated under the safe harbor provisions of Section 21E of the United States Securities Exchange Act of 1934, as amended. When used in this Annual Information Form, the words "estimate", "project", "believe", "anticipate", "intend", "expect", "plan", "predict", "may", "could", "should", "will", the negatives of these words or other variations thereof and comparable terminology are intended to identify forward-looking statements. Such statements include, but are not limited to, statements with respect to our objectives, goals, liquidity, sources and uses of capital, outlook, strategy, order backlog, order book of expected deliveries, future product roadmap costs and selling prices, future product sales, future production capacities and volumes, the markets for our products, expenses / costs, contributions and cash requirements to and from joint venture operations and research and development activities, as well as statements with respect to our beliefs, plans, objectives, expectations, anticipations, estimates and intentions. These statements are not guarantees of future performance and involve assumptions, risks and uncertainties that are difficult to predict. In particular, these forward-looking statements are based on certain factors and assumptions relating to our expectations with respect to new and existing customer and partner relationships, the generation of new sales, producing, delivering, and selling the expected product and service volumes at the expected prices and controlling our costs. They are also based on a variety of general factors and assumptions including, but not limited to, our expectations regarding technology and product development efforts, manufacturing capacity and cost, product and service pricing, market demand, and the availability and prices of raw materials, labour, and supplies. These assumptions have been derived from information available to the Company including information obtained by the Company from third parties. These assumptions may prove to be incorrect in whole or in part. In addition, actual results may differ materially from those expressed, implied, or forecasted in such forward-looking statements. Factors that could cause our actual results or outcomes to differ materially from the results expressed, implied or forecasted in such forward-looking statements include, but are not limited to: challenges or delays in our technology, manufacturing and product development activities; our ability to extract value from joint venture operations; changes in the availability or price of raw materials, labour, supplies and shipping; costs of integration, and the integration failing to achieve the expected benefits of transactions; our ability to attract and retain business partners, suppliers, employees and customers; challenges or delays in our technology and product development activities; our ability to extract value from joint venture operations; changes in the availability or price of raw materials, labour, supplies and shipping; costs of integration, and the integration failing to achieve the expected benefits of the transaction; our ability to attract and retain business partners, suppliers, employees and customers; global economic trends and geopolitical risks (such as the conflict between Russia and Ukraine), including changes in the rates of investment, inflation or economic growth in our key markets, or an escalation of trade tensions such as those between the U.S. and China; the relative strength of the value proposition that we offer our customers with our products or services; changes in competitive technologies, including battery and fuel cell technologies; product safety, liability or warranty issues; changes in our customers' requirements, the competitive environment and/or related market conditions; potential merger and acquisition activities, including risks related to integration, loss of key personnel and disruptions to

operations; warranty claims, product performance guarantees, or indemnification claims; changes in product or service pricing or cost; market developments or customer actions (including developments and actions arising from epidemics and pandemic) that may affect levels of demand and/or the financial performance of the major industries and customers we serve, such as secular, cyclical and competitive pressures in the bus, truck, rail and marine sectors; the rate of mass adoption of our products or related ecosystem, including the availability of cost-effective hydrogen; cybersecurity threat; our ability to protect our intellectual property; the severity, magnitude and duration of the on-going COVID-19 pandemic, including impacts of the pandemic and of businesses' and governments' responses to the pandemic on our operations, personnel and joint venture operations, and on commercial activity and demand across our and our customers', partners' and joint venture businesses, and on global supply chains; climate risk; changing government or environmental regulations, including subsidies or incentives associated with the adoption of clean energy products, including hydrogen and fuel cells; currency fluctuations, including the magnitude of the rate of change of the Canadian dollar versus the U.S. dollar; our access to funding and our ability to provide the capital required for product development, operations and marketing efforts, working capital requirements, and joint venture capital contributions; and the general assumption that none of the risks noted in the "Risk Factors" section of this Annual Information Form will materialize.

The forward-looking statements contained in this Annual Information Form speak only as of the date of this Annual Information Form. Except as required by applicable legislation, Ballard does not undertake any obligation to release publicly any revisions to these forward-looking statements to reflect events or circumstances after the date of this Annual Information Form, including the occurrence of unanticipated events.

In this Annual Information Form, references to "Corporation", "Company", "Ballard", "we", "us" and "our" refers to Ballard Power Systems Inc. and, as applicable, its subsidiaries. All dollar amounts are in United States dollars unless otherwise indicated. Canadian dollars are indicated by the symbol "C$", and euros by the symbol "€".

Except where otherwise indicated, all information presented is as of December 31, 2022.

CORPORATE STRUCTURE

Name, Address and Incorporation

Ballard was incorporated on November 12, 2008 under the *Canada Business Corporations Act* (Canada), under the name "7076991 Canada Inc." Ballard changed its name to "Ballard Power Systems Inc." on December 31, 2008. On August 24, 2016, Ballard continued into British Columbia under the *Business Corporations Act* (British Columbia). Ballard's head office is located at 9000 Glenlyon Parkway, Burnaby, British Columbia, Canada V5J 5J8, and its registered office is located at Suite 1700, 666 Burrard Street, Vancouver, British Columbia, Canada V6C 2X8.

Previously, Ballard Power Systems Inc. was a British Columbia company incorporated on May 30, 1989. The original predecessor to Ballard was founded in 1979 under the name Ballard Research Inc. to conduct research and development on high-energy lithium batteries. In the course of investigating environmentally clean energy systems with commercial potential, we began to develop fuel cells and have been developing fuel cell products since 1983.

Our Vision, Mission and Values

Our vision is to deliver fuel cell power for a sustainable planet. Our mission is to use our fuel cell expertise to deliver valuable and innovative solutions to our customers globally, create rewarding opportunities for our team, provide extraordinary value to our shareholders and power the hydrogen society.

Our values represent our core beliefs and underpin how we carry on our business. In addition to our value pillars of safety and innovation, we have five key cultural values:

- *Listen and Deliver* – We listen to our customers, understand their business and deliver innovative and valuable solutions for lasting partnerships;
- *Quality Always* – We deliver quality in everything we do;
- *Inspire Excellence* – We live with integrity, passion, urgency, agility and humility;
- *Row Together* – We achieve success through respect, trust and collaboration; and
- *Own It* – We step up, take ownership for our results and trust others to do the same.

Intercorporate Relationships

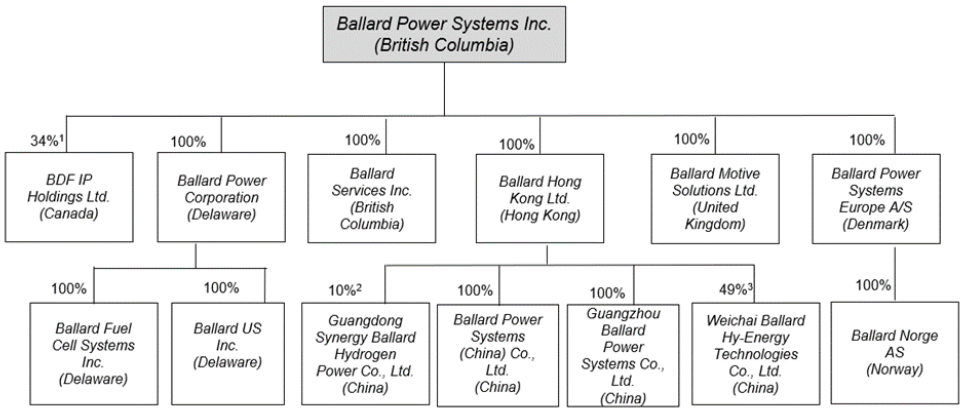
We have eleven subsidiaries and affiliates: (i) Ballard Power Corporation, a Delaware corporation that is a holding company; (ii) Ballard Fuel Cell Systems, Inc., a Delaware corporation that does certain development and manufacturing work, and provides certain services to customers; (iii) Ballard US Inc. (formerly Ballard Unmanned Systems Inc.), a Delaware corporation that is a dormant holding company; (iv) Ballard Power Systems Europe A/S (formerly Dantherm Power A/S) ("**Ballard Denmark**"), a Danish corporation that provides certain sales, assembly, manufacturing, commissioning, research and development, engineering services and after-sales service; (v) Ballard Norge AS, a Norwegian company that provides certain sales and after-sales services; (vi) BDF IP Holdings Ltd., a Canadian corporation that holds certain intellectual property assets; (vii) Ballard Services Inc., a British Columbia company that provides certain engineering services; (viii) Ballard Hong Kong Limited, a holding company

for certain assets in China; (ix) Guangzhou Ballard Power Systems Co., Ltd., a Chinese wholly foreign-owned entity, that provides certain sales, quality, supply chain and after-sales services; (x) Ballard Power Systems (China) Co. Ltd., a Chinese wholly foreign-owned entity that is a holding company; and (xi) Ballard Motive Solutions Ltd. (formerly Arcola Energy Ltd.) ("**BMS**"), a United Kingdom company which provides certain engineering consulting services relating to fuel cell systems and powertrain integration.

We have a non-controlling 49% interest in Weichai Ballard Hy-Energy Technologies Co., Ltd. ("**Weichai-Ballard JV**"), located in Weifang, Shandong Province, China, with Weichai Power Co., Ltd. ("**Weichai**") holding a 51% interest. The Weichai-Ballard JV's business is to manufacture Ballard's FCgen®-LCS fuel cell bipolar plates, stacks and power modules for bus, commercial truck and forklift applications with certain exclusive rights in China.

We also have a non-controlling 10% interest in Guangdong Synergy Ballard Hydrogen Power Co., Ltd. ("**Synergy-Ballard JV**"), located in Yunfu, Guangdong Province, China, with Sino-Synergy Hydrogen Energy Technology (Jiaxing) Co., Ltd. (previously known as Guangdong Nation Synergy Hydrogen Power Technology Co. Ltd.) ("**Sino-Synergy**") holding a 90% interest. The Synergy-Ballard JV's business is to manufacture fuel cell products utilizing our FCvelocity®-9SSL fuel cell stack technology for use primarily in fuel cell engines assembled and sold in China.

The following chart shows these subsidiaries and affiliates, their respective jurisdictions of incorporation and our percentage of share ownership in each of them, all as of March 16, 2023:



Notes:

1. Ballard holds 100% of the non-voting, participating shares of BDF IP Holdings Ltd. and 34% of the voting, non-participating shares, along with each of Mercedes-Benz AG (33%) and Ford Motor Company (33%).
2. Ballard indirectly holds a 10% interest in Guangdong Synergy Ballard Hydrogen Power Co., Ltd. together with Sino-Synergy Hydrogen Energy Technology (Jiaxing) Co. Ltd. (90%).
3. Ballard indirectly holds a 49% interest in Weichai Ballard Hy-Energy Technologies Co., Ltd. together with Weichai Power Co., Ltd. (51%).

Recent History

Over the past three years, we have continued to focus on building and commercializing our proton exchange membrane ("**PEM**") fuel cell business for a variety of mobility and stationary power applications. The following are key developments during that period:

COVID-19 Response

We continue to assess, monitor and deal with the impact of COVID-19 on our business and share information across the Company. We continue to adjust our operations and take actions to protect the health of our employees, customers, suppliers and visitors.

During 2022, we continued to incur COVID-19 administration costs and experienced certain COVID-19 supply chain disruptions. In our Technology Solutions business, there were deferrals of development work on certain of our programs in China as a result of ongoing work, travel and other restrictions related to COVID-19.

We continue to actively monitor the situation and adjust our plans in accordance with governmental orders and legal requirements in each of the markets in which we operate. We may take further actions with respect to production, where required by law or determined by us to be in the best interests of our employees, customers, suppliers or other applicable stakeholders.

Order from First Mode for 30 additional hydrogen fuels for diesel-free mining trucks

On March 1, 2023, we announced a purchase order to supply First Mode with 30 hydrogen fuel cell modules – totaling 3 megawatts – to power several hybrid hydrogen and battery ultra-class mining haul trucks. This is the equivalent of approximately 4,000 horsepower.

The 30 Ballard hydrogen fuel cell modules are to be integrated into clean energy powerplants built in Seattle, Washington and installed into ultra-class haul trucks to be operated at First Mode's Proving Grounds in Centralia, Washington. These trucks are estimated to save 2,600 tons of diesel fuel each year.

Order from CrossWind for Stationary Power Project

On January 23, 2023, we announced on order for a fuel cell system to CrossWind, a joint venture between Shell and Eneco. The Ballard fuel cell system will be integrated in the Hollandse Kust Noord offshore wind project. The Hollandse Kust Noord offshore wind project, located off the coast of the Netherlands, will have a capacity of 759 MW to generate at least 3.3 TWh per year. Ballard will supply a containerized fuel cell power solution with a peak power capacity of 1 MW, with delivery expected in 2024.

Global manufacturing strategy update including plan to invest $130 million in MEA manufacturing facility and R&D center in Shanghai, China

On September 30, 2022, we announced our strategy 'local for local' where we plan to deepen our global manufacturing footprint in Europe, the United States, and China to support expected global market demand growth through 2030. As part of this strategy, we have entered into an investment agreement with the Government of Anting in Shanghai's Jiading District to establish our new China headquarters, membrane electrode assembly ("**MEA**") manufacturing facility, and a research and development ("**R&D**") center, at a site strategically located at the Jiading Hydrogen Port, located in one of China's leading automotive industry clusters.

Ballard plans to invest approximately $130 million over the next three years ($2.1 million was invested in fiscal 2022), which will enable annual production capacity at the new MEA production facility of approximately 13 million MEAs, which will supply approximately 20,000 engines. Ballard expects to be able to achieve significant capacity expansion of this facility in future phases with much lower capital requirements. The facility will also include space to assemble approximately 600 engines annually to support the production and sale of Ballard engines in the rail, marine, off-road and stationary markets in China, as well as for certain export markets.

During 2021, we completed our MEA manufacturing expansion in Canada, which is critical as the MEA is the core technology and limiting factor for Ballard's global fuel cell engine production capabilities. With the new MEA capacity coming online in China, we now expect our global MEA capacity to support total demand requirements through the second half of the decade.

This investment is expected to reduce MEA manufacturing costs, align with China's fuel cell value chain localization policy, and position Ballard more strongly in the hydrogen fuel cell demonstration cluster regions and for the post-subsidy market.

The facility is planned to be in operation in 2025 to meet expected market demand in China, including from the Weichai-Ballard JV for the bus, truck and forklift markets, as well as other opportunities in China outside the Weichai-Ballard JV scope and also to support Ballard's global development requirements.

We also expect to set up an R&D and innovation center at the same site. The center will be focused on MEA research to achieve key corporate technical advancements, support cost reduction initiatives, and engage the emerging China local supply chain for fuel cell materials and components.

We also announced the signing of a non-binding memorandum of understanding with Weichai whereby Weichai plans to make an equity investment for 2% of Ballard's new MEA manufacturing company.

Ballard signs contract with Stadler to supply fuel cell engines to power first hydrogen train in United States

On September 26, 2022, we announced an order from Stadler Rail AG ("**Stadler**"), a leading manufacturer of rolling stock, for the supply of six 100 kW FCmove™-HD+ fuel cell engines to power the first hydrogen train in the United States.

The contract to provide the hydrogen-powered train was awarded to Stadler by San Bernardino County Transportation Authority (SBCTA), with the option of additional trains in the future. The train is expected to be in service in San Bernardino, California in 2024 and is expected to seat over 100 passengers.

Ballard to power India's first hydrogen trains

On September 6, 2022, we announced a fuel cell module order from Medha Servo Drives ("**Medha**"), a leading rail system integrator, who has been contracted by Indian Railways to develop India's first hydrogen powered trains. The two retrofitted diesel-electric commuter trains will integrate 8 units of 100 kW FCmove™-HD+, Ballard's latest fuel cell technology,

which offers improved efficiency and power density than previous module generations. The contract to provide the hydrogen-powered trains was awarded to Medha as a first step in Indian Railways' path to achieve their net zero ambitions. The fuel cell modules are expected to be shipped in 2023, with trains scheduled to go into service in 2024, with potential for additional retrofits following the initial deployment.

Ballard partners with Wisdom Motor Company

On May 9, 2022, we announced a strategic collaboration with Wisdom (Fujian) Motor Company Limited ("**Wisdom**"), Templewater Group ("**Templewater**"), and Bravo Transport Services Limited ("**Bravo**") to accelerate the adoption of commercial fuel cell electric vehicles ("**FCEVs**") in Hong Kong.

Templewater, an alternative asset management firm and parent company of Bravo, Hong Kong island's largest transit operator, together with Ballard, co-invested in a Series A funding for Wisdom, a technology company that designs and manufactures zero emission commercial vehicles. The Series A funds (including Ballard's $10.0 million, 7% equity ownership contribution in the second quarter of 2022) will support Wisdom's organizational growth, R&D, and manufacturing platforms, including the expansion and development of its hydrogen zero emission fuel cell truck, bus, and specialty vehicle offerings for international markets.

Wisdom's hydrogen vehicle product lines are expected to exclusively deploy Ballard's world leading PEM fuel cell technology, with modules supplied by the Weichai-Ballard JV in China. Ballard intends to enter into a joint development agreement with Wisdom to advance the integration and optimization of its fuel cell electric powertrain designs and control strategies.

Ballard granted Type Approval by DNV for the FCwave™ marine fuel cell module

On April 6, 2022, we announced the receipt of Europe's industry first Type Approval by DNV, one of the world's leading classification and certification bodies, for our marine fuel cell module FCwave™. The Type Approval marks an important step in commercializing Ballard's fuel cell technology for marine applications and is key to including fuel cells as part of zero- emission solutions for the marine industry. The Type Approval process is extensive, involving a series of simulations and tests which were carried out at Ballard's global Marine Center of Excellence in Hobro, Denmark, where the FCwave™ is developed and manufactured.

The International Maritime Organization has set ambitious targets to cut greenhouse gas ("**GHG**") emissions from ships by at least 50% by 2050. The high-power FCwave™ module is a flexible solution that can support the energy needs of various vessel types as well as onshore power. The scalable 200kW power module offers a plug-and-play replacement for conventional diesel engines. The Type Approval certification confirms the design meets certain safety, functional, design and documentation requirements necessary for global marine commercialization.

Project with Adani for Hydrogen Fuel Cells in India

On February 22, 2022, we announced the signing of a non-binding Memorandum of Understanding ("**MOU**") with the Adani Group ("**Adani Group**") to evaluate a joint investment case for the commercialization of fuel cells in various mobility and industrial applications in India.

On January 17, 2023, we announced the signing of an agreement to launch a pilot project to develop a hydrogen fuel cell electric truck ("**FCET**") for mining logistics and transportation with Adani Enterprises Limited ("**AEL**"), part of the diversified Adani portfolio of companies, and Ashok Leyland.

This collaboration marks Asia's first planned hydrogen powered mining truck. The demonstration project will be led by AEL, a company focused on both mining operations and developing green hydrogen projects for sourcing, transporting, and building out hydrogen refueling infrastructure. Ballard, an industry leading PEM fuel cell engine manufacturer, will supply the FCmove™ fuel cell engine for the hydrogen truck and Ashok Leyland, one of the largest manufacturers of buses in the world, will provide the vehicle platform and technical support. The FCET is scheduled to be launched in India in 2023.

Ballard fuel cells installed onboard the world's first liquid hydrogen-powered ferry

On February 2, 2022, we announced the delivery of two, 200 kilowatt (kW) FCwave™ modules to Norled A/S, one of Norway's largest ferry and express boat operators. The fuel cell modules are intended to power the world's first liquid hydrogen-powered ferry, the MF Hydra.

Orders for 31 fuel cell engines to a leading global construction, electric power & off-road equipment manufacturer

On January 13, 2022, we announced orders for 31 modules, totaling 3 MW of hydrogen fuel cell power, to a leading global construction, electric power, and off-road equipment manufacturer for testing and deployment in a variety of end-use applications. The modules are expected to be delivered in 2022 and 2023 to match planned integration, testing, and deployment schedules.

Acquisition of Arcola

On November 11, 2021, we announced the acquisition of Arcola Energy Ltd. ("**Arcola**") (now BMS), a UK-based systems engineering company with approximately 90 employees, specializing in hydrogen fuel cell powertrain and vehicle systems integration. Ballard acquired Arcola for total consideration of up to US$40 million, including 337,353 Ballard shares (with an approximate valuation of US$6 million at acquisition) that vest over two years, and up to US$34 million in upfront and earn-out cash consideration based on the achievement of certain performance conditions over a two-year period.

During the fourth quarter of 2022, we completed a post-acquisition restructuring of the operations at BMS and recognized impairment charges on intangible assets of approximately $13 million and restructuring related operating expenses of approximately $5 million which included contract exit and modification costs, grant adjustment charges, personnel change costs, and legal and advisory costs, net of expected recoveries. Pursuant to this restructuring of operations, it was agreed to reduce the earn-out consideration by approximately $10 million which resulted in a corresponding recovery on settlement of contingent consideration payable.

Infrastructure Funds

In 2021, we invested in two hydrogen infrastructure and growth equity funds whereby we acquired a 12% interest in the HyCap Fund I SCSP ("**HyCap**"), a special limited partnership

registered in Luxembourg; and a 1% interest in the Clean H2 Infra Fund (**Clean H2**"), a special limited partnership registered in France.

HyCap is a newly created hydrogen infrastructure and growth equity fund. HyCap is to invest in a combination of hydrogen infrastructure projects and investments in companies along the hydrogen value chain. We have committed to investing £25.0 million (including £7.2 million invested as of December 31, 2022) into HyCap.

Clean H2 is another newly created hydrogen infrastructure and growth equity fund. Clean H2 is to invest in a combination of hydrogen infrastructure projects and investments in companies along the hydrogen value chain. We have committed to investing €30.0 million (including €1.0 million invested as of December 31, 2022) into Clean H2.

Ballard and Forsee Power SA ("Forsee Power") enter Long-Term Strategic Partnership to Develop & Commercialize Integrated Fuel Cell and Battery Solutions for Heavy-Duty Hydrogen Mobility

On October 18, 2021, we announced the signing of an MOU for a strategic partnership with Forsee Power to develop fully integrated fuel cell and battery solutions, optimized for performance, cost and installation for heavy-duty hydrogen mobility applications. Ballard will supply the fuel cell system and related controls, and Forsee Power will supply the battery system and related battery management system, cooling system and high voltage DC/DC conversion system. The parties will jointly develop the software EMS to optimize the hybrid fuel cell and battery system architecture.

As part of the strategic relationship, in October 2021 Ballard participated as a cornerstone lead investor in Forsee Power's initial public offering on Euronext in Paris, France. We made a contribution of €37.7 million (approximately $43.8 million), resulting in an ownership interest of 9.77% in Forsee Power. In connection with our investment, Ballard has the right to appoint a nominee to the Forsee Power board of directors. Ballard appointed a nominee effective as of the closing of the initial public offering.

The MOU was superseded by a Collaboration Agreement between the parties, dated December 14, 2022, pursuant to which the parties agreed to jointly approach new and existing customers with an integrated fuel cell and battery solution, integrate fuel cell and battery systems with software, develop and specific power electronics components for the integrated fuel cell and battery solution, and develop the integrated fuel cell and battery into a turn-key solution for customers.

Ballard and Quantron AG Announce a Strategic Partnership for the Development of Hydrogen Fuel Cell Electric Trucks

On September 7, 2021, we announced a strategic partnership with Quantron AG (**Quantron**") expected to accelerate deployment and market adoption of fuel cell technologies. Initial collaboration will focus on the integration of Ballard's FCmove™ family of heavy-duty fuel cell power modules into Quantron's electric drivetrain and vehicles.

On September 19, 2022, we announced a minority equity investment in Quantron. As part of Quantron's financing round of up to 50 million Euros, Ballard's investment proceeds (5 million Euros was contributed in the fourth quarter of 2022, resulting in an ownership interest of

1.89% in Quantron) are to be used by Quantron to develop their truck fuel cell vehicle platforms, under the terms of a Joint Development Agreement. Ballard is to be the exclusive fuel cell supplier to Quantron for these platforms.

In connection with our investment, Ballard has the right to appoint (and has appointed) a nominee to the Quantron AG board of directors.

As part of the strategic partnership, Quantron committed to purchase 140 FCmove™ modules totaling approximately 17MW, with an option to purchase an additional 50 units. The fuel cell modules are expected to be delivered in 2023 and 2024. Subsequent to the initial order, Quantron committed to purchase an additional 72 FCmove™ modules totaling approximately 3MW for delivery in 2023 and 2024. The zero-emission fuel cell electric vehicle platforms developed by Quantron are to integrate Ballard fuel cell products for various truck applications in Europe and the US.

Ballard and Linamar Form Strategic Alliance to Develop Fuel Cell Solutions for Light-Duty Vehicles

On May 3, 2021, we announced the formation of a strategic alliance with Linamar Corporation ("**Linamar**") for the co-development and sale of fuel cell powertrains and components for class 1 and 2 vehicles, weighing up to 5 tons, initially in North America and Europe.

On May 9, 2022, Ballard announced with Linamar the unveiling of its concept hydrogen fuel cell powered class 2 truck chassis. The technology demonstration platform was showcased at the ACT Expo displayed in a RAM 2500 truck chassis. Testing on the new platform is underway and will continue in 2023.

Ballard Fuel Cells to Power CP Hydrogen Locomotive Program

On March 9, 2021, we announced that Canadian Pacific (**CP**") will employ Ballard fuel cell modules for CP's pioneering Hydrogen Locomotive Program to develop North America's first hydrogen-powered line-haul freight locomotive by retrofitting a formerly diesel-powered locomotive with Ballard's 200 kW hydrogen fuel cell modules.

On January 19, 2022, we announced receipt of an order for six of an additional eight fuel cell modules to support CP's expansion of the Hydrogen Locomotive Program. In total, Ballard will provide a total of 14 fuel cell modules, each module with a rated power output of 200 kW, to support this program.

Orders for Fuel Cell Modules to Power Buses

On November 4, 2021, we announced orders for a total of 40 FCmove™-HD (70kW) modules for planned deployment in hydrogen fuel cell electric buses ("**FCEBs**") across Europe in 2022. As of March 2023, the announced FCmove™-HD sales have been deployed in FCEBs across Europe.

On June 22, 2021, we announced a follow-on purchase order from New Flyer for 20 fuel cell modules to power 20 New Flyer Xcelsior® model FCEBs, planned for deployment with Alameda-Contra Costa Transit District (AC Transit) in Oakland, California.

On March 9, 2021, we announced follow-on purchase orders from Wrightbus for a total of 50 fuel cell modules to power FCEBs planned for deployment in a number of UK cities.

February 2021 Bought Deal Offering of Common Shares

On February 23, 2021, we announced the closing of a bought deal offering of 14,870,000 common shares of Ballard at a price of $37.00 per common share for gross proceeds of $550,190,000.

November 2020 Bought Deal Offering of Common Shares

On November 27, 2020, we announced the closing of a bought deal offering of 20,909,300 common shares of Ballard at a price of $19.25 per common share for gross proceeds of $402,504,025. The bought deal offering included the exercise in full by the underwriters of their over-allotment option to purchase up to an additional 2,727,300 common shares at the offering price.

Ballard and AUDI Sign Agreements Regarding Use of the High-Power Density Fuel Cell Stack for Vehicle Propulsion

As part of the planned completion of the AUDI program, on October 29, 2020, we announced that we had signed definitive agreements – in the form of an amendment to the existing Technology Development Agreement and a Patent License Agreement – with AUDI AG ("**AUDI**") expanding Ballard's right to use the FCgen®-HPS product, a high-performance, zero-emission, PEM fuel cell stack in all applications, including commercial trucks and passenger cars. The amendments allowed AUDI to reduce the size of the remaining Technology Solutions program to the lower end of the range previously disclosed, and in return Ballard acquired expanded rights to use the FCgen®-HPS product, subject to certain royalty obligations.

The FCgen®-HPS fuel cell stack provides propulsion for a range of Light-, Medium- and Heavy-Duty vehicles with a high volumetric power density of 4.3 kilowatts per liter (4.3 kW/L). This marks another power density milestone for Ballard over our decades of PEM fuel cell product innovation. The FCgen®-HPS was fully designed and developed by Ballard to stringent automotive standards in the company's Technology Solutions program with AUDI.

Ballard Sells UAV Business to Honeywell

On October 15, 2020, we announced that we had sold our Unmanned Aerial Vehicle ("**UAV**") business assets of Ballard Unmanned Systems Inc. to Honeywell International Inc. ("**Honeywell**"). All employees of Ballard Unmanned Systems Inc. transitioned to Honeywell Aerospace on the closing. In 2022, Ballard Unmanned Systems Inc. changed its name to Ballard US Inc., which is now a dormant holding company.

Ballard and MAHLE to Collaborate on Fuel Cell Propulsion Systems for Heavy- and Medium-Duty Trucks

On September 28, 2020, we announced an agreement to collaborate with MAHLE International GmbH ("**MAHLE**"), a leading international development partner and Tier 1 supplier to the commercial vehicle and automotive industry, on the development and commercialization of zero-emission fuel cell systems to provide primary propulsion power in

various classes of commercial trucks. The definitive agreement defining the collaboration was entered in October 2020.

During the initial development phase, Ballard has prime responsibility for system design and the fuel cell stack sub-system, while MAHLE's scope of responsibility includes balance-of-plant components, thermal management and power electronics for the complete fuel cell system, as well as system assembly.

Solaris Bus & Coach S.A. Orders

On April 27, 2020, we announced a purchase order from Solaris Bus & Coach S.A. (**Solaris**"), a leading European bus and trolleybus manufacturer headquartered in Bolechowo, Poland, for 20 of Ballard's new 70 kW heavy-duty FCmove™-HD fuel cell modules. These modules will power 20 Solaris Urbino 12 hydrogen buses planned for deployment The Netherlands, under the Joint Initiative For Hydrogen Vehicles Across Europe ("**JIVE 2**") funding program. The buses will be operated by Connexxion, which provides transport services for South Holland province.

On March 12, 2020, we announced a purchase order from Solaris for 25 70 kW heavy-duty FCmove™-HD fuel cell modules. These 25 modules will power 15 Solaris Urbino 12 hydrogen buses planned for deployment in Cologne, Germany and 10 Urbino 12 hydrogen buses planned for deployment in Wuppertal, Germany, all under the JIVE 2 funding program.

On November 17, 2022 we announced another purchase order from Solaris for a further 25 70 kW heavy-duty FCmove™-HD fuel cell modules. These modules will be installed in Solaris' Urbino 12 hydrogen buses for deployment to Polish public transport operator MPK Poznań and are expected to be delivered in the second half of 2023. The buses are to be partially funded by the National Fund for Environmental Protection and Water Management's Green Public Transport program. MPK Poznań requires 30% of its fleet to be zero-emission by 2028. These 25 hydrogen fuel cell buses will increase its zero-emission fleet from 18% to 25%.

At-The-Market Equity Distributions

On March 10, 2020, we entered into an at-the-market Equity Distribution Agreement (the **March EDA**") with BMO Capital Markets Corp. ("**BMO US**") as lead agent and CIBC World Markets Corp. ("**CIBC US**"), Cormark Securities Inc. ("**Cormark US**), and TD Securities (USA) LLC ("**TD US**") (together with BMO, the "**March Agents**"), thereby establishing an at-the-market equity program (the "**March ATM Program**").

The Company issued $66,673,000 of common shares under the March ATM Program for net proceeds of $64,867,000. The common shares were issued from treasury to the public in March and April 2020. Shares issued in April resulted from transactions initiated in the last days of March that were settled in April 2020.

The common shares sold under the March ATM Program were sold at the prevailing market price at the time of sale, when sold through the Nasdaq stock exchange ("**Nasdaq**") or any other existing trading market for the Common Shares in the United States.

On September 1, 2020, we entered into an at-the-market Equity Distribution Agreement (the **September EDA**") with BMO Nesbitt Burns Inc., Raymond James Ltd. and TD Securities Inc., as lead Canadian agents, and CIBC World Markets Inc., Cormark Securities Inc., National

Bank Financial Inc. (collectively, the "**Canadian Agents**"), and BMO US, Raymond James & Associates, Inc. and TD US, as lead US agents, and CIBC US, H.C. Wainwright & Co., LLC, Cormark Securities (USA) Limited, Lake Street Capital Markets, LLC, National Bank of Canada Financial Inc., and Roth Capital Partners (collectively, the "**US Agents**" and together with the Canadian Agents, the "**September Agents**"), thereby establishing an at-the-market equity program (the "**September ATM Program**").

The Company issued $250 million of common shares under the September ATM Program for net proceeds of approximately $245 million. The common shares were issued from treasury to the public in September and October 2020. Shares issued in October resulted from transactions initiated in the last days of September that were settled in October 2020.

The common shares sold under the September ATM Program were sold at the prevailing market price at the time of sale, when sold through the Toronto Stock Exchange (the "**TSX**"), Nasdaq, or other existing trading markets for the Common Shares in Canada and the United States.

Under the March EDA and September EDA, sales of common shares were made through "at-the-market distributions" as defined in National Instrument 44-102 – Shelf Distributions.

Ballard paid the March Agents and September Agents a commission rate of 2.0% of the aggregate gross proceeds from each sale of common shares under the March EDA and the September EDA, respectively, and provided the March Agents and September Agents with customary indemnification and contribution rights. Ballard reimbursed the March Agents and September Agents for certain specified expenses in connection with entering into the March EDA and September EDA, respectively.

Ballard and HDF Energy Sign Development Agreement for Multi-Megawatt Fuel Cell Systems

On December 9, 2019, we signed a Product Development Agreement with Hydrogène de France ("**HDF Energy**") for the development and integration of a multi-megawatt ("**MW**") scale PEM fuel cell system into HDF Energy's Renewstable® power plant designed for stationary power applications.

HDF Energy's Renewstable® power plant is a multi-MW baseload system enabling large-scale storage of intermittent renewable wind or solar energy in the form of hydrogen – through the process of electrolysis – as well as electricity generation using that hydrogen feedstock together with a fuel cell system.

Subject to certain conditions, the collaboration contemplates a future technology transfer of Ballard's new MW-scale containerized PEM fuel cell system to HDF Energy with an exclusive royalty-bearing, non-transferable, multi-year global license for the manufacture and sale of MW-scale fuel cell systems for Renewstable® power plant systems. The collaboration also contemplates Ballard supplying FCgen®-LCS fuel cell stacks for these systems based on an exclusive long-term supply agreement.

The initial HDF Energy project is an installation planned in French Guiana, an overseas region of France located off the northern Atlantic coast of South America, under the Centrale Electricité de l'Ouest Guyanais ("**CEOG**") project.

The transaction remains subject to completion of definitive agreements and is reliant in part on the CEOG project, which is subject to customary conditions for multi-year programs of this scope, including but not limited to permitting and regulatory approvals, financings and project execution activities.

Strategic Collaboration with Weichai

On November 13, 2018, we closed a strategic collaboration transaction with Weichai. The strategic collaboration included an equity investment by Weichai in Ballard, formation of a joint venture company and a development program.

Weichai and Ballard established the Weichai-Ballard JV on November 26, 2018 in Shandong Province to support China's fuel cell electric vehicle market. Ballard holds a 49% ownership position and Weichai holds a 51% ownership position. Weichai holds three of five Weichai-Ballard JV board seats and Ballard holds two, with Ballard having certain minority shareholder protections.

The Weichai-Ballard JV develops and manufactures fuel cell modules and components including Ballard's LCS bipolar plates, fuel cell stacks and FCgen®-LCS-based power modules for bus, commercial truck, and forklift applications with exclusive rights (subject to certain conditions) in China and is to pay Ballard a total of $90 million under a Research and Development Agreement to develop and transfer technology to Weichai-Ballard JV in order to enable these manufacturing activities. Ballard retains an exclusive right to the developed technologies outside China, subject to certain restrictions on sublicensing outside China. The Weichai-Ballard JV will also purchase MEAs for FCgen®-LCS fuel cell stacks exclusively from Ballard under a long-term supply agreement.

The Weichai-Ballard JV operation, located in Weifang, Shandong Province, China, has commenced production activities of LCS bipolar plates, LCS fuel cell stacks and LCS-based modules to power bus and truck FCEVs for the China market. After recent production automation projects, the Weichai-Ballard JV is expected to have annual production capacity of 40,000 fuel cell stacks which equates to approximately 20,000 engines.

Ballard and AUDI Sign Extension to Long-Term Program for Fuel Cell Passenger Cars

On June 11, 2018, we announced that we had signed a 3.5-year extension to our current Technology Solutions contract with AUDI, part of the Volkswagen Group, extending the HyMotion program. The amendment to the Technology Development Agreement entered into in October 2020 (and discussed above) allowed AUDI to reduce the size of the remaining Technology Solutions program to the lower end of the range previously disclosed, and in return Ballard acquired expanded rights to use the FCgen®-HPS product, subject to certain royalty obligations. This program has now been completed.

Ballard Receives Orders to Power Siemens Mireo Plus H Passenger Trains and signs LOI for up to an additional 200 modules over the next six years

On July 15, 2021, we announced a purchase order for two of our 200 kW fuel cell modules from Siemens Mobility GmbH to power a 2-car Mireo Plus H passenger train through a trial operation in Bavaria, Germany.

On September 22, 2022, we announced an order for 14 x 200 kW fuel cell modules from Siemens Mobility GmbH, to power a fleet of seven Mireo Plus H passenger trains. Delivery of the 14 fuel cell modules is expected to start in 2023 with the fleet planned to be in service in Berlin-Brandenburg region in late 2024.

In addition to the initial order of 14 fuel cell modules, Siemens Mobility also signed a letter of intent with Ballard for the supply of 200 fuel cell modules totaling 40 MW over the next six years, including a firm commitment on 100 of the fuel cell modules totaling 20MW. The modules will be used for Siemen's Mireo Plus H trains.

OUR BUSINESS

At Ballard, our vision is to deliver fuel cell power for a sustainable planet. We are recognized as a world leader in PEM fuel cell and power system development and commercialization.

Our principal business is the design, development, manufacture, sale and service of PEM fuel cell products for a variety of applications, focusing on our power product markets of Heavy-Duty Motive (consisting of bus, truck, rail and marine applications), Material Handling, and Stationary Power Generation, as well as the delivery of Technology Solutions, including engineering services, product and systems integration services, and related technology transfer for a variety of PEM fuel cell applications. With the acquisition of Arcola (now BMS) in 2021, Ballard now offers hydrogen fuel cell powertrain integration solutions.

A fuel cell is an environmentally clean electrochemical device that combines hydrogen fuel with oxygen (from the air) to produce electricity. The hydrogen fuel can be obtained from natural gas, kerosene, methanol or other hydrocarbon fuels, or from water through electrolysis. Ballard's PEM fuel cell products feature high fuel efficiency, low operating temperature, low noise and vibration, compact size, quick response to changes in electrical demand and modular design. Embedded in each Ballard PEM fuel cell product lies a stack of unit cells designed with Ballard's proprietary technology, which include membrane electrode assemblies, catalysts, plates, and other key components, and which draw on intellectual property from our patent portfolio together with our extensive experience and know-how, in key areas of PEM fuel cell stack design, operation, production processes and system integration.

Strategy

We strive to build value for our shareholders by developing, manufacturing, selling and servicing zero-emission, industry-leading PEM fuel cell technology products and services to meet the needs of our customers in select target markets. More specifically, our business plan is to leverage our core competencies of PEM fuel cell stack technology and engine development and manufacturing, our investments in advanced manufacturing and production capacity, and our product portfolio by marketing our products and services across select large and attractive addressable market applications and select geographic regions.

We typically select our target market applications based on use cases where the comparative user value proposition for PEM fuel cells powered by hydrogen are strongest – such as where operators value low emission vehicles that require high utilization, long driving range, heavy payload, fast refueling, and similar user experiences to legacy diesel vehicles – and where

the barriers to entry for hydrogen refueling infrastructure are lowest – such as use cases where fuel cell vehicles typically return to a depot or hydrogen hub for centralized refueling and don't require a distributed hydrogen refueling network. Our current target markets include certain medium- and heavy-duty mobility applications of bus, truck, rail and marine, along with certain off-road mobility and stationary power applications.

We select our target geographic markets based on a variety of factors, including addressable market sizes of the target market applications in the geographic markets, historic deployments and expected market adoption rates for hydrogen and fuel cells, supportive government policies, existing and potential partner, customer, and end user relationships, and competitive dynamics. Our current target markets are the geographic regions of China, Europe, and North America.

While we recognize addressing multiple market applications and geographic markets in parallel increases our near-term cost structure and investments, we believe offering the same core PEM fuel cell technologies and substantially similar derivative PEM fuel cell products across multiple mobility and power market applications and select geographic regions will significantly expand and strengthen our long-term business prospects by increasing volume scaling in our operations, enabling lower product and production costs for the benefit of all markets, improving our competitive positioning and market share, enabling richly diversified revenue streams and profit pools, and improving our return on investment in our technology and product development programs and our investments in manufacturing.

Our strategy is built on 5 key themes:

1. **Double down in fuel cell stack & module**: invest in leading technology and products to provide leading value to our customers and end users based on a total cost of ownership basis.
2. **Selectively expand across value chain**: extend across the value chain to capture control points, reduce technology adoption barriers, simplify, and optimize our customer offering, and accelerate fuel cell deployments.
3. **Develop new routes to market** creatively explore partnerships and demonstration programs to accelerate hydrogen and fuel cell market adoption and grow volume for product sales.
4. **Win in key regions:** build a competitive platform in each of North America, Europe and China.
5. **Here for Life**: deliver a compelling environmental, social and governance ("**ESG**" proposition for our stakeholders

In 2020 and 2021, we materially strengthened our financial position through equity financings, thereby providing additional flexibility to fund our growth strategy. Following these financings, given strong indicators of long-term market adoption of hydrogen and zero-emission mobility, given growing customer interest in our fuel cell products, given a growing opportunity set, and given an increasingly competitive environment, we strategically decided to significantly increase and accelerate our investments ahead of the adoption curve, including investments in our 5 key themes. As a result, we have increased and accelerated our investments in technology and product innovation, production capacity expansion and localization, strategic pricing for

select customer demonstration programs, customer experience, and corporate development investments. Our increased investments include significant investment in next generation products and technology, including our proprietary MEAs, bipolar plates, stacks, modules, and powertrain systems integration, including our acquisition of BMS; advanced manufacturing processes, technologies, equipment, and production localization activities in China, Europe, and the United States; and technology and product cost reduction.

Revenues from Market Segments

We report our results in the single operating segment of Fuel Cell Products and Services. Our Fuel Cell Products and Services segment consists of the sale and service of PEM fuel cell products for our power product markets of Heavy-Duty Motive (consisting of bus, truck, rail and marine applications), Material Handling and Stationary Power Generation, as well as the delivery of Technology Solutions, including engineering services, technology transfer and the license and sale of our extensive intellectual property portfolio and fundamental knowledge for a variety of fuel cell applications.

The results of BMS are included in our Technology Solutions and Heavy Duty Motive markets.For 2023, we anticipate reclassifying the results of our Fuel Cell Products and Services operating segment into certain power product market applications as well as the delivery of services.

The following chart shows the percentage of total revenues which arises from sales to investees and sales of products and services to other customers, for the years 2022 and 2021:

	2022	2021
Revenues from Fuel Cell Products and Services		
Percentage of total revenues	100%	100%
Portion representing sales to investees[(1)]	10.0%	37.0%
Portion representing sales to customers other than investees	90.0%	63.0%

Notes:

1. In this table, “investees” means Guangdong Synergy Ballard Hydrogen Power Co., Ltd., a joint venture formed in China of which we hold a 10% equity interest and Weichai Ballard Hy-Energy Technologies Co., Ltd., a joint venture formed in China, of which we hold a 49% equity interest.

Our Markets, Products and Services

Product & Service Overview

Ballard’s product offering provides for a cost effective and flexible set of fuel cell power solutions. Ballard provides products in five distinct product classes:

1. **MEAs**: We provide our proprietary MEAs to the Synergy-Ballard JV and the Weichai-Ballard JV that use the MEAs to produce our proprietary FCveloCity®-9SSL fuel cell stacks and FCgen®-LCS fuel cell stacks, respectively.
2. **Fuel cell stacks**: We provide our proprietary FCgen® and FCveloCity® fuel cell stacks to

OEM customers and system integrators that use the stacks to produce fuel cell systems for power solutions. As the fuel cell stack provider, we are the power inside the system.

3. **Fuel cell modules**: We design and build, including specifying and procuring balance of plant components, self-contained FCveloCity® and FCmove™ motive modules using our fuel cell stacks that are plug-and-play into commercial vehicle powertrains. We also design and build self-contained FCwave™ modules designed for marine applications and FCrail™ for rail applications. As a fuel cell module provider, we make it easier for OEMs and system integrators to create fuel cell powertrains.
4. **Fuel cell systems**: We also build complete fuel cell systems, FCgen®-H2PM and Cleargen™ products, for stationary power markets that are designed to solve certain power needs of our customers, including back-up for critical infrastructure and MW distributed power generation.
5. **Energy system and powertrain integration:** We provide complete energy system (fuel cell + battery + controller + high and low voltage distribution), powertrain design and integration services, and vehicle integration services, to support our customer fuel cell vehicle development programs.
6. **Technology Solutions**: We offer engineering services to our customers for special fuel cell product development.
7. **After Sales Services**: We offer our customers after sales services including in and out of warranty support, service contracts, spare part management, fleet monitoring and training.

The following table lists the key fuel cell and non-fuel cell products we currently produce, offer for sale, have under development or are testing:

Motive Power Product Family:		
Product Name	**Application**	**Status**
FCgen®-LCS MEA	Fuel cell stacks for buses, commercial vehicles, light rail, and material handling	Sales to licensee (Weichai-Ballard JV)
FCveloCity®-9SSL MEA	Fuel cell stacks for buses, commercial vehicles, light rail, and material handling	Sales to licensee (Synergy-Ballard JV)
FCgen®-HPS stacks	Light-duty and heavy-duty commercial vehicles and passenger car	Sales to OEMs and system integrators
FCgen®-LCS stacks	Buses, commercial vehicles, light rail, and material handling	Sales to OEMs and system integrators
FCveloCity®-9SSL stacks	Buses, commercial vehicles, light rail, and material handling	Sales to OEMs and system integrators
FCgen®-1020ACS stacks	Material handling and backup power	Sales to OEMs and system integrators
FCveloCity® modules	Buses, commercial vehicles, and light rail	Sales to OEMs and system integrators
FCmove™ modules	Buses, commercial vehicles, and light rail (legacy product range)	Sales to OEMs and system integrators
FCwave™ modules	Marine, rail (freight locomotives) and stationary	Sales to OEMs and system integrators
FCrail™	Passenger rail application	Sales to OEMs and system integrators
Energy system controller and powertrain integration services	Energy system for bus and truck	Sales to demonstration projects in the UK and engineering services globally

Stationary Power Product Family:		
Product Name	**Application**	**Status**
FCgen®-1020ACS	Backup power	Sales to OEMs and system integrators
FCgen®-H2PM	Backup power systems	Sales to customers
ClearGen®	Distributed generation systems	Sales to customers and Integrators
FCgen®-200	Power generation	Sales to customers

Fuel Cell Products and Services

Power Products Markets

Heavy-Duty Motive

We provide fuel cell modules for public transit systems, including buses and light rail, and for commercial trucks. Fuel cell electric vehicles in these applications rely on centralized

fueling depots that simplify the hydrogen infrastructure requirements and are typically government-subsidized, thus enabling the purchase of pre-commercial fleets.

We design and manufacture the fuel cell module products capable of delivering 50 kW to 200 kW of power for use in the Heavy-Duty Motive market. We supply the fuel cell modules to hybrid drive, bus, truck, light rail and marine propulsion system OEMs and integrators that deliver zero-emission fuel cell-powered vehicles to fleet operators. The demand for zero-emission vehicles is driven in many jurisdictions by the requirement to reduce greenhouse gases and other harmful emissions.

The FCveloCity® power module platform, which was initially launched in 2015, is available in various configurations ranging in power from 50 kW to 100 kW to address different levels of battery/fuel cell hybridization and a variety of applications. In 2022, sales of the FCveloCity®-HD module were limited to some of our existing customers mainly for fuel cell electric bus applications.

In 2019, we launched our eighth-generation high-performance fuel cell module, the FCmove™-HD. The FCmove™ family of products is designed to power medium- and heavy-duty commercial vehicles such as buses and trucks. The FCmove™-HD 70kW version is being delivered to customers in China and Europe and has been integrated in vehicles. The FCmove™-HD+ 100kW version was launched in 2021 and we are starting delivery of the first modules to customers for integration into their new vehicle platforms. We presented at IAA Show in September 2022 the concept unit for FCmove™-XD (120/240kW) product which is being developed for heavy duty trucks (>19t and class 6-8).

In 2020, we introduced the FCwave™, a fuel cell module designed for certain marine applications. The FCwaveTM fuel cell module is a 200 kW modular unit that can be scaled in series up to the multi-megawatt (MW) power level. The FCwave™ product provides primary propulsion power for marine vessels – such as passenger and car ferries, river push boats, and fishing boats – as well as stationary electrical power to support hotel and auxiliary loads on cruise ships and other vessels while docked at port (also known as ‘cold ironing’). In 2021, we also started to sell FCwave™ products for stationary and rail applications.

Supported by Technology Solution program, we have developed for Siemens Mobility the 200kW FCrail™ product which has been integrated in the new Mireo Plus H2 regional passenger train.

By the end of 2022, fuel cell electric vehicles in commercial heavy-duty and medium-duty motive applications powered by Ballard technology surpassed an estimated total of 150 million kilometers.

Competition

Diesel-powered buses and commercial trucks currently dominate the market today. Compressed natural gas (“**CNG**”) and diesel electric hybrid powertrains are lower-emission alternatives to diesel engines but are in limited service today. Other variants available today include gasoline hybrid buses and CNG hybrid buses. Electric trolley buses provide a zero-emission alternative; however, their purchase price is high and the overhead catenary power infrastructure is expensive to maintain and is considered aesthetically undesirable in many urban

centres. The recent developments in battery-powered powertrain vehicles have created a zero-emission alternative to fuel cell buses in the form of battery electric buses and commercial trucks, as well as electrified trains and battery-powered marine vessels. These battery-powered heavy-duty vehicles will continue to offer a competitive zero emission mobility solution for zero-emission mobility applications.

We believe that fuel cell electric vehicles are the best zero-emission alternative for medium-duty and heavy-duty applications in certain use cases in bus, truck, train and marine. In comparison to battery electric vehicles, we believe fuel cell electric vehicles in medium-duty and heavy-duty applications: are able to operate over a longer range and on more demanding routes; offer higher energy density to maximize payload; and are capable of refueling quickly, ensuring the vehicle is on the road generating revenue for the fleet operator. We also believe that in certain cases hydrogen refueling infrastructure has certain scaling cost and logistics advantages compared to battery recharging for large fleets.

Companies developing fuel cell systems for heavy-duty applications include Beijing Sinohytec Co. Ltd., cellcentric GmbH & Co. KG (a joint venture of Daimler Truck AG and the Volvo Group), Cummins Inc., EKPO Fuel Cell Technologies GmbH (a joint venture of ElringKlinger and Plastic Omnium), Hyzon Fuel Cell Technologies Pte. Ltd., Hyundai Motor Company, Nikola Motor Company, Plug Power, Inc. ("**Plug Power**"), Powercell Sweden AB, Robert Bosch GmbH, Shanghai Re-Fire Technology Co., Ltd., Symbio SAS (a joint venture of Michelin and Faurecia), Toyota Motor Corporation and Loop Energy Inc.

We are also seeing the emergence of product offerings for hydrogen internal combustion engines developed by companies like Cummins Inc. and J C Bamford Excavators Ltd. This technology is seen as a bridge between internal combustion engines and hydrogen mobility. Through modification of existing diesel engines, it allows the use of hydrogen as a fuel leading to CO2 emission reduction. However, the fact it does not meet zero emission requirements (NOx emissions) and lower efficiency compared to fuel cells (-15%) will likely be a serious handicap for long term viability.

We believe that we are well positioned to compete with our competitors based on our talented workforce, intellectual property portfolio, technology, number of product offerings, manufacturing capabilities, vertical integration, customers, partners, brand, financial strength, and extensive operating hours in real world heavy-duty operations.

Material Handling

The material handling market includes industrial vehicles such as forklifts, automated guided vehicles and ground support equipment. Our initial focus is on battery-powered Class 1 counterbalance lift trucks, Class 2 reach trucks and Class 3 pallet forklifts. Our products for the material handling market are the FCveloCity®-9SSL stack, which is applicable to Class 1, Class 2 and Class 3 forklift truck solutions, the FCveloCity®-1020ACS stack for Class 3 material handling applications, and the FCgen®-LCS stack which is expected to be applicable to Class 1, Class 2 and Class 3 forklift truck solutions.

Ballard is currently supplying fuel cell stacks to a limited number of system integrators in North America and Europe.

Competition

Class 2 and Class 3 forklift trucks are currently dominated by battery-powered solutions, as are Class 1 forklift trucks intended for indoor applications. Internal combustion engine power is typically seen as the solution for forklift trucks in Class 1 for outdoor applications. Compared to batteries, fuel cell systems in Class 1, Class 2 and Class 3 forklift trucks can provide extended run time without frequent and lengthy battery replacement and recharging cycles. For high-throughput, multi-shift warehouse or manufacturing operations, fuel cell powered forklift trucks can provide a lower life-cycle cost when compared with battery solutions.

Plug Power is the only company currently offering a full suite of Class 1, 2 and 3 forklift solutions to the material handling market. We currently sell and supply fuel cell stacks to Plug Power on a limited basis. Plug Power has developed its own air-cooled and liquid-cooled fuel cell stacks to vertically integrate into their material handling solutions. Plug Power's own fuel cell stacks compete with our fuel cell stacks for supply in Plug Power's business. Ballard is also engaged with other companies to increase potential sales beyond Plug Power for the forklift market.

Other companies developing fuel cell systems for material handling applications include certain systems integrators, like Infintium, and certain forklift manufacturers, like Hyster-Yale, KION, and Toyota.

Advanced battery technology continues to make progress in the material handling market. However, the high up-front cost of advanced batteries continues to be a barrier to broad market adoption. Furthermore, advanced battery technologies still require significant time for recharging and, in many cases, cannot meet desired run times without requiring spare batteries and substantial space for battery charging and storage.

Stationary Power Generation

PEM fuel cell systems have market opportunities for zero emission power generation applications requiring intermittent power generation with fast response such as backup power of critical infrastructure, peak shaving, hybrid renewable off-grid sites and electric charging applications such as shore power.

The backup power market includes stationary applications for telecommunications equipment and other critical infrastructure such as data centers. We also sell fuel cell stacks to certain companies developing PEM fuel cell-based backup power systems and other stationary power systems.

We supply the backup power market through the sale of our hydrogen backup power product, the FCgen®-H2PM, manufactured by Ballard Denmark.

We provide fuel cell systems to backup critical communication infrastructure with a focus on fibre optics network backbones, critical hub sites and emergency communication networks (police, fire, ambulance and other emergency response services) in Europe with our FCgen®-H2PM product. Several Scandinavian countries have passed regulations to impose extended backup time (typically more than 12 hours) for critical infrastructure.

Fuel cell technology provides an alternative power solution to ensure site power availability during unexpected and extended power outages to harden critical infrastructure including data centres.

We also intend to provide fuel cell power generation solutions from 200kW to multiple MW using our FCwave and ClearGen platforms. We recently announced a demonstration program for backup generation for data centers with Caterpillar Inc. at a Microsoft data center in the US as well as distributed power generation project with HDF Energy.

Competition

The stationary power generation market is currently dominated by diesel generators and batteries. Advanced battery technology continues to make modest progress in the backup power generation market. However, advanced battery technologies still require lengthy recharging and, in many cases, cannot meet desired run times without requiring substantial space. We believe that PEM fuel cell products are superior to batteries in some applications, because of their ability to provide extended run time without frequent or lengthy recharging, as well as their ability to offer lower life cycle costs, given that batteries require periodic replacement.

For certain applications and markets we believe fuel cell power generators offer a value proposition against diesel generators with lower operating cost, extended run time, low emission and noise, and less risk of theft.

Hydrogen internal combustion engines ("**H-ICEs**") and hydrogen fueled gas turbines are also being developed and could be an alternative to diesel generators. Compared with fuel cell systems, however, H-ICEs and gas turbines produce nitrous oxide emissions and are considered to be less power efficient.

Companies developing PEM fuel cell systems for stationary power generation applications include Altergy, CHEM, Plug Power, SFC Energy, Powercell, and Nedstack. We seek to gain competitive advantage through fuel cell designs that provide zero emissions, superior performance, reliability, durability and cost.

Technology Solutions

This business platform was established in 2011 to leverage our expertise in fuel cell design, prototyping, manufacturing and servicing. The mandate of the Technology Solutions business platform is to help customers solve difficult technical and business challenges in their PEM fuel cell programs or address new business opportunities. We offer customized, bundled technology solutions, including specialized PEM fuel cell engineering services, access to our intellectual property portfolio and know-how, as well as the supply of technology components.

Our current Technology Solutions efforts are predominantly in support of automotive and heavy-duty motive research and product development programs. In 2022, we also executed on programs in rail, marine and stationary.

As noted in the Recent History section above, in 2018 we signed a 3.5-year extension to the then-current Technology Development Agreement with AUDI, part of the Volkswagen Group. In 2020 we amended the Technology Development Agreement with AUDI relating to certain program reductions through 2022. This program has now been completed.

In 2022, we continued to execute on the development of a 200 kW fuel cell engine zero-emission fuel cell engine to power Siemens' Mireo light rail train pursuant to the Development Agreement entered into with Siemens in 2017. We also continued the execution of the Research and Development Agreement to develop and transfer technology to the Weichai-Ballard JV in order to enable manufacturing of Ballard's FCgen®-LCS fuel cell stack and FCgen®-LCS-based power modules for bus, commercial truck and forklift applications with exclusive rights in China.

Competition

Our main competition in the automotive sector for engineering services is the automakers' 'in-house' capabilities, specialized automotive engineering companies, or fuel cell development companies, like AVL List, FEV Group GmbH, Intelligent Energy, Bosch, and Ricardo offer competing fuel cell development programs.

Impact of Regulations and Public Policy

In the course of carrying on our business we believe we have become aware of government regulation and public policies that may be supportive of our business, the fuel cell industry in general or zero-emission vehicles. The statements below in this section are based on our understanding of the regulations and public policies in place in the particular jurisdiction as of the date of this Annual Information Form that we believe to be correct. While we believe the statements below in this section to be correct, regulation and public policy may change without notice and our understanding regulations and public policies may be incorrect.

Approximately 75 countries have announced targets to achieve net-zero emissions strategies for 2050 or pledged to be carbon neutral by 2050. Also, over 50 countries representing approximately 90% of global GDP have specific hydrogen strategies. The main drivers of such policies include GHG emission reduction goals, the integration of renewables, as well as the opportunity for economic growth and green recovery plans. Interest and investment in hydrogen is increasing globally, as governments across the globe continue to adopt national hydrogen strategies. The Hydrogen Council reported in 2022 that 684 large-scale project proposals worth $240 billion have been announced.

On November 15, 2021, President Biden signed into law the Infrastructure Investment and Jobs Act. The bill allocates over $62 billion to the Department of Energy to advance clean energy technologies, including: (1) $8 billion to support the development of at least four clean hydrogen hubs across the United States in order to further development with respect to the production, processing, delivery, storage, and end-use of clean hydrogen; and (2) $1 billion to support the demonstration, commercialization, and deployment of electrolyzer systems, in order to decrease the cost of clean hydrogen production.

In 2022, more than $1.6 billion was allocated through the Federal Transit Administration's (the **FTA**") Low and No Emission Grants and the Bus and Bus Facilities Grants; this funding supported investment in 150 transit fleets and facilities throughout the United States with more than 1,100 vehicles being zero-emission.

The Inflation Reduction Act was signed into law by President Biden in August 2022, and represents a $369 billion investment in the modernization of the American energy system.

Among other things, the broad bill includes a hydrogen production tax credit (up to $3/kg of hydrogen produced at a given facility, based on the carbon intensity of production) It is intended to make technologies, like green hydrogen and carbon capture, profitable in large scale improving business case for hydrogen mobility and deployment of fuel cell applications.

The California Air and Resource Board ("**CARB**") Low Carbon Transportation and Air Quality Improvement Program programs provide mobile source incentives to reduce GHG emissions, criteria pollutants, and air toxics through the development of advanced technology and clean transportation in California. The ICT Regulation was adopted in December 2018 and requires all public transit agencies to gradually transition to a 100 percent zero-emission bus ("**ZEB**") fleet. Beginning in 2029, all new transit bus purchases by California transit agencies must be ZEBs, with a goal for full transition by 2040. In 2020, the CARB unanimously adopted the world's first zero-emission commercial truck requirement, the Advanced Clean Trucks rule. Beginning in 2024, truck manufacturers must increase their zero-emission truck sales to between 30-50 percent by 2030 and 40-75 percent by 2035 depending on the class of truck. The CARB requirements are expected to be key drivers of the growing demand in California for fuel cell trucks and buses.

In 2020, multiple countries in Europe announced ambitious hydrogen strategies supported by significant funding (for example, €9 billion in Germany and €7 billion in France).

The European Commission's "Fit for 55 package, announced in July 2021, includes a number of proposals that could support growth in the European Union's hydrogen economy, as the bloc seeks to reach its climate goals. Europe has a binding legal target of a 55% GHG emissions reduction by 2030 and a goal of a net-zero economy by 2050. The revised Alternative Fuels Infrastructure Directive calls for hydrogen refueling stations at least every 150 km on highways for compressed hydrogen and every 450 km for liquid hydrogen by 2030. Furthermore, it establishes new sub-targets for the use of Renewable Fuels of Non-Biological Origin (RFNBOs) by 2030. Overall, this totals five million tonnes of green hydrogen per year for industry, alongside a further five million tonnes for transport.

In December 2021, the European Commission announced the launch of the Clean Hydrogen Partnership, which will take over the activities of existing FCH JU. The EU will support the Clean Hydrogen JU with €1 billion of funding for the period 2021-2027, complemented by at least an equivalent amount of private investment (from the private members of the partnership). The Clean Hydrogen Partnership will accelerate the development and deployment of the European value chain for clean hydrogen technologies, contributing to sustainable, decarbonized and fully integrated energy systems. Together with the Hydrogen Alliance, it will contribute to the achievement of the European Union's objectives put forward in the EU hydrogen strategy for a climate-neutral Europe.

Within those European Union policies, hydrogen is identified as one of the key technologies to achieve decarbonization and European energy security as part of the REPowerEU plan published in 2022. The plan sets targets of 10Mt of locally produced renewable hydrogen and 10Mt of imports by 2030. In addition, through the REPowerEU plan, the European Commission allocated an additional €200 million to the Clean Hydrogen Partnership to double the number of Hydrogen Valleys in Europe by 2025. Other recent EU

legislative initiatives include the Renewable Energy Directive revision, the new Fuel EU Maritime, and the Alternative Fuel Infrastructure Regulation.

In December 2020, Canada announced its Hydrogen Strategy setting an ambitious framework to cement hydrogen as a key part of Canada's path to net-zero carbon emissions by 2050 and make Canada a global leader in hydrogen technologies. In 2021, Natural Resources Canada set up a framework for the execution of Canadian Hydrogen Strategy including development of hydrogen hubs and have released first call for proposal for production at scale of green hydrogen to be used for fuel for zero emission vehicles. In August 2021, the Canadian government announced the creation of the Zero Emission Transit Fund, which will allocate $2.75 billion to ZEBs over five years with a goal of deploying 5,000 ZEBs.

In September 2020, the Government of China announced a new 4-year policy framework replacing existing subsidy programs with awards. While previous policies in China to support zero-emission vehicle makers (sometimes referred to as new-energy vehicles) had offered subsidies on sales, the new policy framework will require local governments and companies to build a more mature supply chain and business model for the new-energy vehicle industry. The Government of China is expected to provide financial incentives to demonstration regions that meet requirements based on:

- Completeness of industry base with leading enterprises;
- Competitive hydrogen energy supply and economics;
- Prior fleet demonstration of FCEV applications; and
- Guaranteed local policy to support FCEV industry.

In 2021, the Government of China announced the first demonstration city clusters in Beijing, Shanghai and Guangdong. In early 2022, the Government of China announced Henan and Hebei as the second demonstration city clusters.

In March 2022, the National Development and Reform Commission (NDRC) and National Energy Administration (NEA) jointly released the country's first mid to long-term plan for implementing and developing hydrogen usage in China, stretching until 2035. According to the plan, the projected volume for renewable-based hydrogen is aimed to reach within the range 100,000-200,000 tons annually by 2025.

Workforce

As of December 31, 2022, we had 1,296 employees in Canada, the United States, the European Union, the United Kingdom and China, representing such diverse disciplines as electrochemistry, polymer chemistry, chemical, mechanical, electronic and electrical engineering, manufacturing, quality, supply chain management, advanced manufacturing, marketing, sales, service, business development, legal, finance, accounting, people & culture, information technology and business management. Our employees are not represented by any labour union. Each employee must agree to confidentiality provisions as part of the terms of his or her employment, and certain employees have also executed non-competition agreements with us.

Sustainability and ESG

Our strategic theme of Here for Life™ connotes our purpose to decarbonize mobility, to mitigate the existential threat of climate change, and pass on to the next generation a more livable planet. By focusing on sustainable ESG practices and transparency, Ballard strives to ensure that we, our customers, partners and suppliers continue to maximize our positive impact on the world around us.

In late 2021, we conducted our first stakeholder-informed materiality assessment and used this to drive the focus of our ESG strategy. Ballard is focused on accelerating the impact of the energy transition by delivering our fuel cell products to the market and doing so in a manner that seeks to minimize the negative impact on the environment. We are also focused on attracting, engaging and retaining the right talent, energizing our workforce through a diverse, equitable and inclusive culture, continuing our unwavering commitment to health and safety and using strong governance practice to support risk-adjusted decision making and maximize value creation.

In 2022, we continued our "Mission Carbon Zero" initiative; a multi-year approach to reduce our environmental impact and achieve carbon neutrality by 2030. Through this initiative we developed an implementation plan and roadmap identifying the material initiatives that will support a reduced carbon footprint and accelerate the avoidance of emissions as our business grows.

The Sustainability and Governance Committee ("**S&G Committee**") of the Board has the responsibility of overseeing our environmental, health and safety performance . The S&G Committee is composed of Ballard directors and its mandate is further described in the charter of such committee, included on Ballard's website. Certain risk mitigation strategies, such as periodic audits, employee training programs and emergency plans and procedures, are in place to minimize the environmental risks. Our climate-related disclosures are available in our CDP reports and our ESG Reports, all available on our website www.ballard.com in the "Sustainability at Ballard" section. Our governance documents and committee charters are available on Ballard's website www.ballard.com in the "Investors" section under "Governance".

Environmental Policy

Ballard is committed to supporting the delivery of fuel cell solutions while seeking to mitigate our negative environmental impact and ensuring compliance with applicable regulatory requirements. Consequently, we have implemented comprehensive environmental management programs with half of our operating sites (including our most material production facilities), third-party certified under ISO 14001, and plans to certify the remaining. We strive to contribute to the protection of the environment by integrating environmental priorities into our overall business plan and through the specific monitoring and measurement of such priorities against historical performance and, in some cases, specific targets.

Social Policies

Ballard maintains a (i) comprehensive Code of Ethics, (ii) a Diversity and Inclusion Policy, and (iii) a Harassment, Workplace Bullying & Anti-discrimination Policy. These policies affirm Ballard's commitment to preventing harassment and discrimination against any employee

or applicant based on grounds of religion, race, sex, nationality, disability or any other basis protected by law, ordinance or regulation. The policies extend to recruitment, selection and compensation practices, as well as to working conditions and the work environment. Internal complaint resolution procedures have been established whereby any person covered by these policies can contact their people and culture business partner or manager who will address their complaint. We encourage our employees to report any situation that appears to involve a breach of the company's ethical or legal obligations and have engaged a third-party to receive anonymous reports or allegations of wrongdoing, and they can be contacted on a confidential basis.

Facilities

We currently have facilities in Canada, Denmark, the United Kingdom, USA, and China, including the following facilities: (a) 260,024 ft² (24,157 m²) of leased facilities in Burnaby, British Columbia that house our corporate headquarters and our fuel cell development, manufacturing, assembly and testing activities; (b) 18,202 ft² (1,691 m²) of leased facilities in Hobro, Denmark that house certain engineering, manufacturing, sales and service activities; (c) 4,607 ft² (428 m²) of leased facilities in England that house certain of our office facilities; and (d) 26,000 ft² (2,415 m²) of leased facilities in Bend, Oregon that house certain of our assembly and testing facilities. The Weichai-Ballard JV's operations in Weifang, Shandong Province, China are conducted in an approximately 150,000 ft² (14,000 m²) facility. The Synergy-Ballard JV's operations in Yunfu, China occupies approximately 40,000 ft² (3,700 m²) of a purpose built 120,000 ft² (11,000 m²) facility dedicated to fuel cell stack and module assembly.

As noted in the Recent History section, Ballard plans to open a new MEA production and R&D facility in Shanghai's Jiading District.

As per our Quality Statement, we are committed to ensuring that each of these facilities is operated in full compliance with all applicable laws, as well as all applicable health, safety, and regulatory standards.

Manufacturing

Our PEM fuel cell products are produced in five facilities – three in Burnaby, British Columbia, Canada, one in Hobro, Denmark, and one in Bend, Oregon, USA. Along with these facilities, the Weichai-Ballard JV, of which Ballard has a 49% interest, manufactures Ballard's FCgen®-LCS fuel cell stack and FCgen®-LCS-based power modules for bus, truck and forklift applications in Weifang, Shandong Province, China, and the Synergy-Ballard JV, of which Ballard has a 10% interest, operates an FCveloCity®-9SSL fuel cell stack assembly line in Yunfu, Guangdong Province, China. The Burnaby facilities are focused on our core fuel cell competencies, which include the production of MEAs, the production of bipolar plates, integration and testing of fuel cell stacks, assembly and testing of motive modules, assembly and testing of stationary systems, as well as support of other products required through our engineering services contracts. Ballard Denmark develops, tests, and manufactures FCwave™ marine power modules, FCgen® stationary power modules and backup power systems in Hobro, Denmark. The Bend facility will manufacture and test certain motive modules primarily for the US market.

A part of our expansion strategy, we continue to make investments in our manufacturing processes, equipment, capabilities and business processes to increase our production.

Certain materials and components used in the production of MEAs, bipolar plates, fuel cell stacks, and balance of plant are proprietary in nature and have been developed in joint collaboration between Ballard and our key supply base. Strategic supply agreements have been executed with these suppliers to ensure security of supply, protection of our intellectual property, and adherence to our strict quality and reliability standards.

Safety

Our products are designed and manufactured with the safety of our employees, customers, and end-users in mind. All equipment and processes that are introduced into our working environment are evaluated using a rigorous Preliminary Hazard Assessment procedure to ensure they are safe to use.

In 2022, we continued to work diligently to continue to strengthen the culture of safety across our entire global footprint. We have enhanced the robustness of our safety protocols in the areas of Management Leadership and Commitment, Hazard Identification and Control, Training and Instruction, Emergency Preparedness, Workplace Inspections, Accident Investigations, and Health and Safety Administration. Conformance to these systems is ensured through our Integrated Management System.

We continued to meet the requirements of ISO 45001 – Occupational Health and Safety certification in certain of our Burnaby and United Kingdom facilities.

Quality

Quality is an integral part of the Ballard culture. We measure our success through the satisfaction of our customers and other quality metrics.

Our processes and systems are focused on ensuring that every product that is shipped to our customers conforms to their expectations and contractual requirements while being produced in a safe and environmentally conscious manner. We adhere to our Quality Policy Statement, which reads, “At Ballard, Quality is intrinsic to our identity. Our team is empowered to do things right – the first time – to satisfy customer needs and deliver on our promise.”

We are certified to automotive standard IATF16949 while maintaining ISO9001:2015 in our Burnaby facilities. Conformance to these quality systems is ensured through our Integrated Management System. We also strive for continuous improvements in our manufacturing processes through such practices as Lean Manufacturing, 5-S and Six Sigma. The Weichai-Ballard JV in Weifang, Shandong Province, China and the Synergy-Ballard JV in Yunfu, China each carry the IATF16949 certification. Our Hobro facility carries the ISO9001:2015 certification.

Research and Product Development

Ballard’s research activities are primarily focused on the MEA and its sub-components, aimed at improving the overall cost, performance, durability, and reliability of our products. Material development for other unit cell components, such as bipolar plates, frames, seals and adhesives, are areas of additional research focus. Product development activities have been primarily directed at stack design and module development and cost reduction. Progress is driven by leveraging stack component designs, materials, and manufacturing processes across

multiple product platforms. In addition, warranty cost reduction is enabled through improved durability and reliability growth.

Intellectual Property

Ballard's technical strengths lay in our proprietary MEA design, combined with our extensive stack and system integration capabilities, which enables development of complete end-user systems that meet or exceed customer specifications, across a wide range of market applications.

Our intellectual property covers multiple aspects of our technology, including: materials and components; cell, stack and systems architecture; stack/system operation and control; and manufacturing processes. Our intellectual property portfolio is not limited to our patents and patent applications; it also includes know-how and trade secrets developed over more than 30 years of research, product development and production.

As of March 16, 2023, Ballard owns or controls: 38 United States granted patents; 104 non-United States granted patents; 4 United States published patent applications; and 23 published non-United States patent applications. Our patents will expire between April 2023 and September 2040.

We hold licence rights to additional intellectual property from a number of third parties. We have a royalty-free license to approximately 1,000 issued patents and pending patent applications from AUDI for bus and non-automotive applications and a royalty-bearing license for all other applications. In addition, these licences include non-exclusive, royalty-free access to all of the intellectual property rights held by NuCellSys GmbH, a Daimler subsidiary, and to all of the intellectual property rights relating to fuel cells developed by Daimler, Ford and their subsidiaries (either directly or through AFCC), including any intellectual property rights developed by them to January 31, 2013. As of March 16, 2023, approximately 90 of the patents and patent applications that were included in these licenses, are currently granted or pending.

Cybersecurity

Ballard is committed to maintaining strong security controls, including encryption, to protect our information and the information our customers and partners entrust to us. We maintain administrative, technical, and organizational security measures to protect information from loss, misuse, and unauthorized access or disclosure. These measures are based on industry security practices and take into account the sensitivity of the information we collect, the current state of technology, the cost effectiveness of implementation, and the scope of the data processing we engage in. To our knowledge, Ballard has not experienced an information security breach in the last three years.

Ballard implements and maintains a cybersecurity framework to manage cyber risk, control, and compliance-based activities. This framework is based on the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) 27001 standard. Ballard also maintains robust cyber insurance coverage. Ballard employees receive cybersecurity training during onboarding and on an ongoing basis.

The Audit Committee is responsible for overseeing our cybersecurity risk program and monitoring cybersecurity policies and procedures within our organization. Management briefs the Audit Committee on cybersecurity matters quarterly.

SHARE CAPITAL AND MARKET FOR SECURITIES

Our authorized share capital consists of an unlimited number of common shares and an unlimited number of preferred shares. As of March 16, 2023, our issued share capital consisted of 298,443,438 common shares. Our common shares are listed and trade on the Toronto Stock Exchange ("**TSX**") and on the National Association of Securities Dealers Automated Quotation Global Market ("**NASDAQ**") and trade under the symbol "BLDP" on both exchanges.

The following table shows the monthly trading activity for our common shares on the TSX and NASDAQ during 2022:

	TSX		NASDAQ	
	Price Range (C$)	**Average Daily Volume (#)**	**Price Range (US$)**	**Average Daily Volume (#)**
January	$11.39 - $15.98	1,306,762	$8.94 - $12.63	1,248,414
February	$11.28 - $14.50	1,223,832	$8.86 - $11.42	1,173,693
March	$12.36 - $15.38	1,299,149	$9.74 - $12.40	1,331,931
April	$10.65 - $15.50	1,339,153	$8.30 - $11.94	966,522
May	$7.87 - $11.67	2,563,145	$6.04 - $8.35	1,311,390
June	$7.55 - $9.50	1,122,004	$5.83 - $7.57	991,261
July	$8.21 - $11.38	1,133,762	$6.32 - $8.88	1,127,878
August	$9.45 - $11.45	1,000,369	$7.19 - $8.97	836,786
September	$8.26 - $10.50	814,690	$5.95 - $8.02	745,310
October	$6.94 - $7.85	1,209,579	$5.14 - $5.73	983,805
November	$7.35 - $8.54	836,404	$5.39 - $6.43	847,444
December	$6.09 - $7.99	1,223,699	$4.47 - $5.91	876,428

The holders of our common shares are entitled to one vote for each share held on all matters to be voted on by such shareholders and, subject to the rights and priorities of the holders of preferred shares, are entitled to receive such dividends as may be declared by our Board out of funds legally available therefor and, in the event of liquidation, wind-up or dissolution, to receive our remaining property, after the satisfaction of all outstanding liabilities.

Our preferred shares are issuable in series and our Board is entitled to determine the designation, preferences, rights, conditions, restrictions, limitations and prohibitions to be attached to each series of such shares. The Board represents that it will not, without prior shareholder approval, issue or use preferred stock for any defensive or anti-takeover purpose or for the purpose of implementing any shareholder rights plan. Currently there are no preferred shares outstanding.

DIVIDEND RECORD AND POLICY

To date, we have not paid any dividends on our shares and, because it is anticipated that all available cash will be needed to implement our business plans, we have no plans to pay dividends in the foreseeable future.

ESCROWED SECURITIES AND SECURITIES SUBJECT TO CONTRACTUAL RESTRICTIONS ON TRANSFER

There are no securities of Ballard in escrow or subject to contractual restrictions on transfer.

DIRECTORS AND OFFICERS

Board of Directors

The following chart provides the following information as of December 31, 2022: the name and province or state of residence of each of our directors; each director's respective positions and offices held with Ballard, their principal occupation during the past five years and the period of time each has served as a director.

Name and Province/State of Residence[1]	Office[1]	Principal Occupations and Positions During the Last Five Years	Director Since
Kathy Bayless California, USA	Director	Ms. Bayless' principal occupation is corporate director. Ms. Bayless is a member of the Board and Audit Committee Chair of Veeco Instruments Inc. (*electronics manufacturing equipment*). Previously Ms. Bayless held various executive roles at public technology companies including SVP Chief Financial Officer and Treasurer at Synaptics, Incorporated as well as Komag, Incorporated. Ms. Bayless is a Certified Public Accountant in California.	2021
Douglas P. Hayhurst British Columbia, Canada	Director	Mr. Hayhurst's principal occupation is corporate director. Previously, Mr. Hayhurst was executive Global Industry Leader with IBM Canada Business Consulting Services (*consulting services*) and with PricewaterhouseCoopers Management Consultants (*consulting services*). Prior to that, Mr. Hayhurst held various senior executive management roles with Price Waterhouse Canada including National Deputy Managing Partner (Toronto) and Managing Partner for British Columbia (Vancouver). Mr. Hayhurst received a Fellowship (FCA) from the Institutes of Chartered Accountants of British Columbia and of Ontario. He has completed the Directors Education Program of the Institute of Corporate Directors and has received his ICD.D designation.	2012
Kui (Kevin) Jiang Shandong, China	Director	Mr. Jiang is President of Shandong Heavy Industry Group Co., Ltd. (*heavy machinery manufacturing*). He is also a non-executive director of Weichai Power Co., Ltd, *(diesel engine, powertrain and hydraulic products manufacturing*), a supervisor of KION Group AG *(intralogistics, warehouse solutions and industrial trucks*), and a director of Shantui Construction Machinery Co., Ltd. *(heavy machinery manufacturing*). Previously, Mr. Jiang was deputy general manager of Shandong Bulldozer General Factory *(heavy machinery manufacturing*); deputy general manager of Shantui Construction Machinery Import and Export Company *(heavy machinery*); a director and senior officer of Shantui Engineering Machinery Co., Ltd. *(heavy machinery*); deputy general manager of Shandong Engineering Machinery Group Co., Ltd. *(heavy machinery*); executive deputy general manager and vice chairman of Weichai Group Holdings Limited, *(diesel engine manufacturing*); and chairman of Shanzhong Jianji Co., Ltd. *(heavy machinery*). He is an engineer and holds an MBA degree.	2019
Duy-Loan Le[2] Texas, USA	Director	Ms. Le is President of DLE Management Consulting LLC (*management consulting services*), a position she has held since 2016. Previously, Ms. Le was an advanced technology ramp manager and a Senior Fellow at Texas Instruments Incorporated (*semiconductor design and manufacturing*) from 2002 to 2015; Program Manager and Fellow from 1998 to 2002; and Design Engineer and Manager from 1982 to 1998. Ms. Le is an inventor on 24 U.S. patents.	2017

Name and Province/State of Residence[1]	Office[1]	Principal Occupations and Positions During the Last Five Years	Director Since
R. Randall (Randy) MacEwen British Columbia, Canada	Director, President & Chief Executive Officer	Mr. MacEwen is President and Chief Executive Officer of Ballard, a position he has held since October 2014. Previously, Mr. MacEwen was the founder and Managing Partner at NextCleanTech LLC (*consulting services*) from 2010 to 2014; and President & CEO and Executive Vice President, Corporate Development at Solar Integrated Technologies, Inc. (*solar*) from 2006 to 2009 and 2005 to 2006, respectively. Prior to that, Mr. MacEwen was Executive Vice President, Corporate Development at Stuart Energy Systems Corporation (*onsite hydrogen generation systems*) from 2001 to 2005; and an associate at Torys LLP (*law firm*) from 1997 to 2001.	2014
Hubertus M. Muehlhaeuser Switzerland	Director	Mr. Muehlhaeuser is Chairman & CEO of Pontem Corporation *(special purpose acquisition company)* and Chairman of Kelvion Ltd. *(heat exchangers).* Previously Mr. Muehlhaeuser was CEO and Executive Director at CNH Industrial N.V. *(agricultural equipment),* CEO and Executive Director at Welbilt Inc. *(food and beverage equipment)* and Sr. Vice President and General Manager at AGCO Corporation *(agricultural equipment).*	2021
Marty Neese California, USA	Director	Mr. Neese is CEO of Verdagy Inc. (*electrolysis and hydrogen production*). He is also co-founder of Nuvosil AS (*silicon recycling*). Previously, he was Chief Operating Officer of Velodyne LiDAR, Inc. (*autonomous vehicles*) from February 2017 to October 2017. Prior to that, Mr. Neese was Chief Operating Officer of SunPower Corporation (*solar power equipment and services*) from 2008 to 2017; responsible for Global Operations at Flextronics (*electronics manufacturing services*) from 2007 to 2008 following its acquisition of Solectron Corporation (*electronics manufacturing services*) where he was Executive Vice President from 2004 to 2007.	2015
James Roche Ontario, Canada	Director	Mr. Roche is founder, President & Chief Executive Officer of Stratford Managers Corporation (*management consulting services*), a position he has held since 2008. Prior to that, Mr. Roche was co-founder, President and Chief Executive Officer of Tundra Semiconductor (*semiconductor component manufacturer*) from 1995 to 2006 and founding member and executive at Newbridge Networks Corporation (*communications equipment manufacturer*) from 1986 to 1995.	2015
Shaojun (Sherman) Sun Shandong, China	Director	Mr. Sun is an Executive Director and Executive President of Weichai Power Co., Ltd. (*diesel engine, powertrain and hydraulic products manufacturing*), a director of Weichai Group Holdings Limited (*diesel engine manufacturing*), Vice Chair of Power Solutions International Inc. (*cleantech engine and powertrain manufacturing*), and an executive director of Sinotruck (Hong Kong) Limited (*heavy-duty truck manufacturing*). Previously, Mr. Sun was supervisor and chief engineer at Weifang Diesel Engine Factory (*diesel engine manufacturing*) and director of Torch Automobile Group Co., Ltd. (*heavy machinery and automotive manufacturing).* He holds doctorate degree in engineering.	2019
Janet Woodruff British Columbia, Canada	Director	Ms. Woodruff's principal occupation is corporate director. Previously, Ms. Woodruff served as acting CEO to the Transportation Investment Corporation *(transportation infrastructure management*) from 2014 to 2015, advisor to the board (2013-2014) and interim Chief Financial Officer (2012-2013). Prior to that, she was Vice President and Special Advisor to BC Hydro *(public utility*) from 2010 to 2011; Interim President (2009-2010) and Vice President, Corporate Services and Chief Financial Officer (2007-2008) of BC Transmission Corporation *(electricity transmission infrastructure*); and Chief Financial Officer and Vice President, Systems Development and Performance of Vancouver Coastal Health *(regional health authority*) from 2003 to 2007.	2017

Notes

1. The information as to place of residence, principal occupation, business or employment of, and shares beneficially owned, or controlled or directed, directly or indirectly, by a director is not within the knowledge of our management and has been furnished by the director.
2. Duy-Loan Le retired from the Ballard Board of Directors effective February 28, 2023. Ms. Duy-Loan Le had been a director since 2017.

Directors are elected yearly at our annual shareholders' meeting and serve on the Board until the following annual shareholders' meeting, at which time, they either stand for re-election or leave the Board. If no meeting is held, each director serves until his or her successor is elected or appointed, unless the director resigns earlier.

The Board has formed four committees: (i) the Audit Committee; (ii) the Commercial Committee; (iii) Sustainability & Governance Committee, and (iv) the People & Compensation Committee. The Audit Committee members are Ms. Bayless, Mr. Hayhurst (chair), Mr. Roche and Ms. Woodruff. The Commercial Committee members are Mr. Muehlhaeuser, Mr. Neese (chair) and Mr. Roche. The Sustainability & Governance Committee members are Ms. Woodruff (chair), Ms. Bayless, Mr. Neese and Mr. Roche. The People & Compensation Committee members are Mr. Hayhurst, Mr. Muehlhaeuser(chair), Mr. Roche and Ms. Woodruff. As part of our corporate governance policy, directors who are appointed by shareholders pursuant to agreements with the Corporation are not eligible to serve on board committees. As a result, Mr. Jiang and Mr. Sun do not serve on any committees as they are appointed by Weichai.

Canadian securities legislation requires disclosure if, as at the date of the AIF, or within 10 years before the date of the AIF, a director or executive officer was a director or officer of any company that became insolvent while that person was acting in that capacity, or within one year from ceasing to act in that capacity. In this regard, Mr. Roche was Chair of Aonix Advanced Materials Corp. (a private company) when a bankruptcy order was issued against it under the *Bankruptcy and Insolvency Act (Canada)* on October 13, 2017.

Conflicts of Interest

Mr. Sun and Mr. Jiang are directors and officers of Weichai or affiliates of Weichai, and as a result they may have potential material conflicts of interest with Ballard given the contractual relationships between and amongst Ballard, Weichai and the Weichai-Ballard JV as discussed above in the Recent History section and below in the Material Contracts section of this Annual Information Form.

Executive Officers

As of March 16, 2023, we had seven executive officers. The name and province or state of residence of each executive officer, the offices held by each officer and each officer's principal occupation during the last five years are as follows:

Name and Province/State of Residence	Position	Principal Occupation
Mark Biznek Florida, USA	Chief Operating Officer	Executive officer of Ballard. Formerly Chief Transformation Officer (2021 – 2023), General Manager of Marine & Electronic Solutions (2020-2021), and Vice President – Strategic Operations (2018-2020) at Kohler Power Systems.
Kevin Colbow British Columbia, Canada	Senior Vice President and Chief Technology Officer	Executive officer of Ballard. Formerly Vice President, Technology Solutions of Ballard.
Paul Dobson Florida, USA	Senior Vice President and Chief Financial Officer	Executive officer of Ballard. Formerly Interim CEO and Chief Financial Officer at Hydro One (2018 to 2019).
Mircea Gradu British Columbia, Canada	Senior Vice President and Chief Engineering Officer	Executive officer of Ballard. Formerly Senior Vice President Automotive Programs, Product and Quality at Velodyne Lidar, Inc. (2017-2022)
R. Randall (Randy) MacEwen British Columbia, Canada	President and Chief Executive Officer	Executive of Ballard.
David Mucciacciaro Michigan, USA	Senior Vice President and Chief Commercial Officer	Executive officer of Ballard. Formerly Vice President Global Sales, Strategy and Product Line at Magna International, Magna Electronics (2018-2022)
Sarbjot (Jyoti) Sidhu British Columbia, Canada	Senior Vice President and Chief People Officer	Senior officer of Ballard. Formerly Senior Vice President, Operations of Ballard.

Shareholdings of Directors and Executive Officers

As of March 16, 2023, our directors and executive officers, as a group, beneficially owned, or controlled or directed, directly or indirectly, 437,184 of our common shares, being less than 1% of our issued and outstanding common shares.

AUDIT COMMITTEE MATTERS

Audit Committee Mandate

The Audit Committee operates under a mandate that is approved by the Board and which outlines the responsibilities of the Audit Committee. A copy of the Audit Committee's mandate is attached as Appendix "A" and posted on our website. This mandate is reviewed annually and the Audit Committee's performance is assessed.

Composition of the Audit Committee

The following table sets forth the name of each of the current members of the Audit Committee, whether such member is independent, whether such member is financially literate and the relevant education and experience of such member.

Name	Independent?	Financially Literate?	Relevant Education and Experience
Kathy Bayless	Yes	Yes	Ms. Bayless is a member of the Board and Audit Committee Chair of Veeco Instruments Inc., and a member of the Board and Audit Committee of Energous Corporation. Previously Ms. Bayless held various executive roles at public technology companies including Chief Financial Officer and Treasurer at Synaptics, Incorporated and Komag, Incorporated. Ms. Bayless is a Certified Public Accountant in California.
Douglas P. Hayhurst (Chair)	Yes	Yes	Mr. Hayhurst was an executive with IBM Canada Business Consulting Services and a Partner with PricewaterhouseCoopers Management Consultants. Prior to that, Mr. Hayhurst held various senior executive management roles with Price Waterhouse including National Deputy Managing Partner (Toronto) and Managing Partner for British Columbia (Vancouver). Mr. Hayhurst received a Fellowship (FCA) from the Institutes of Chartered Accountants of British Columbia and of Ontario. He has completed the Directors Education Program of the Institute of Corporate Directors and has received his ICD.D designation.
James Roche	Yes	Yes	Corporate Director of Ballard. Mr. Roche is currently President and CEO of Stratford Managers Corporation and was a founding member and executive at Newbridge Networks Corporation. He subsequently co-founded Tundra Semiconductor Corporation, and was President and CEO of the publicly-traded company. Mr. Roche has also served as President and CEO of CMC Microsystems and ThinkRF Corp.

Name	Independent?	Financially Literate?	Relevant Education and Experience
Janet Woodruff	Yes	Yes	Ms. Woodruff was acting CEO to the Transportation Investment Corporation from 2014 to 2015, advisor to the board (2013-2014) and interim Chief Financial Officer (2012-2013). Formerly Vice President and Special Advisor to BC Hydro from 2010 to 2011; Interim President (2009-2010) and Vice President, Corporate Services and Chief Financial Officer (2007-2008) of BC Transmission Corporation. Formerly, Chief Financial Officer and Vice President, Systems Development and Performance of Vancouver Coastal Health from 2003 to 2007.

The Audit Committee is responsible for recommending the appointment of our external auditors (for shareholder approval at our annual general meeting), monitoring the external auditors' qualifications and independence, and determining the appropriate level of remuneration for the external auditors. The external auditors report directly to the Audit Committee.

The Audit Committee also approves in advance, on a case-by-case basis, any services to be provided by the external auditors that are not related to the audit. The following table shows the costs incurred with KPMG LLP in 2022 and 2021 for audit and non-audit related work, all of which were approved by the Audit Committee:

Type of Audit Fees	2022 (C$)	2021 (C$)
Audit	$913,430	$855,287[1]
Audit-Related Fees	Nil	Nil
Tax Fees	Nil	Nil
All Other Fees	Nil	Nil

Notes:

1. Restated 2021 for additional out-of-scope services

Audit Fees

Audit fees were for professional services rendered by KPMG LLP for the audit of the annual financial statements, quarterly reviews and services provided in connection with statutory and regulatory filings or engagements relating to prospectuses and other offering documents. A

Audit-Related Fees

Audit-related fees would be for assurance and related services reasonably related to the performance of the audit or review of financial statements or other services traditionally performed by the auditor but are not reported under the heading audit fees above. There were no fees paid to KPMG LLP that would be considered "Audit-Related Fees" in 2022 and 2021.

Tax Fees

There were no fees paid to KPMG LLP that would be considered "Tax Fees" in 2022 or 2021.

All Other Fees

All other fees to be disclosed under this category would be for products and services other than those described under the headings audit fees, audit-related fees and tax fees above. There were no fees paid to KPMG LLP that would be considered "All Other Fees" in 2022.

LEGAL PROCEEDINGS

From time to time, we may be involved in litigation relating to claims arising out of our operations in the normal course of business.

INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

The Weichai-Ballard JV is 51% owned by Weichai, and as of March 16, 2023, Weichai beneficially owns (through its wholly-owned subsidiary, Weichai Power Hong Kong International Development Co., Limited ("**Weichai HK**")) owns approximately 15.5% of Ballard's common shares.

The Weichai-Ballard JV has exclusive rights to manufacturer Ballard's next generation LCS fuel cell stack and LCS-based modules for bus, commercial truck and forklift markets in China.

As noted above, two of Ballard's directors, Mr. Jiang and Mr. Sun, are directors and officers of Weichai or affiliates of Weichai.

Except as described above, none of our insiders, directors or executive officers, nor any associate or affiliate of such persons, has had any material interest, direct or indirect, in any transaction of ours within our three most recently completed financial years, nor in any transaction or proposed transaction within our current financial year that has materially affected or would materially affect us or any of our subsidiaries.

TRANSFER AGENT AND REGISTRAR

Our transfer agent and registrar is Computershare Trust Company of Canada, 100 University Avenue, 9th Floor, Toronto, Ontario, M5J 2Y1.

MATERIAL CONTRACTS

Particulars of every contract that is material to Ballard, other than a contract entered into in the ordinary course of business that is not required to be disclosed under *National Instrument 51-102 – Continuous Disclosure Obligations*, and that was entered into within the most recently completed financial year, or before the most recently completed financial year but is still in effect, are listed below.

AUDI Patent License and Intellectual Property Exploitation Agreement

On October 29, 2020, we entered into a Patent License and Intellectual Property Exploitation Agreement (the "**License Agreement**") with AUDI expanding Ballard's right to use the FCgen®-HPS product, a high-performance, zero-emission, proton exchange membrane (PEM) fuel cell stack in all applications, including commercial trucks and passenger cars. The

License Agreement modifies many of the provisions of TDA-3 related to the parties' respective intellectual property rights. Concurrently with the signing of the License Agreement Ballard and AUDI entered into an amendment to TDA-3.

Pursuant to the License Agreement AUDI grants to Ballard for use in all applications a non-exclusive, royalty-bearing license to the intellectual property developed for AUDI pursuant to TDA-3, the prior Technology Development Agreement dated as of March 1, 2013 entered into between Ballard and Volkswagen AG, as amended and assigned to AUDI, and the Transfer and License Agreement dated February 11, 2015 between Ballard and AUDI.

Pursuant to the License Agreement Ballard grants to AUDI for use in all applications a non-exclusive, royalty-bearing license to use Ballard's background and sideground intellectual property incorporated, forming a part of, or covering work or deliverables performed in connection with TDA-3.

The License Agreement established the royalty payable by each party. The term of the License Agreement continues until the last of the relevant patents to expire.

We filed the License Agreement on SEDAR on November 6, 2020.

Weichai Strategic Collaboration Transaction

On November 13, 2018, we entered into a strategic collaboration transaction with Weichai that included the following material agreements:

1. A Subscription Agreement between Weichai and Ballard dated August 29, 2018. The Subscription Agreement resulted in an equity investment in Ballard by Weichai in the amount of approximately $163.6 million, representing 19.9% of the outstanding common shares of the capital of Ballard at that time.
2. An Investor Rights Agreement between Weichai HK and Ballard dated November 13, 2018. The key terms of Investor Rights Agreement are set out in the Recent History section of this Annual Information Form.
3. A Joint Venture Agreement between Weichai and Ballard HK dated November 13, 2018. The key terms of Joint Venture Agreement are set out in the Recent History section of this Annual Information Form.

The Subscription Agreement was filed on SEDAR on September 3, 2018 and the Investor Rights Agreement and Joint Venture Agreement were filed on SEDAR on November 23, 2018.

Technology Development Agreement with AUDI

On June 11, 2018, we entered into a 3.5-year extension to our current Technology Solutions contract with AUDI extending the HyMotion program to August 2022. The particulars of the Technology Development Agreement are described above in this Annual Information Form.

We filed the Technology Development Agreement on SEDAR on June 21, 2018. The preceding technology development agreement and associated amending agreement with AUDI and VW were filed on SEDAR on February 20, 2015 and March 15, 2013, respectively.

AUDI IP Asset Transfer

On February 11, 2015, we entered into an agreement with AUDI (the "**IP Transfer and License Agreement**") under which we agreed to transfer to AUDI certain of the transportation-related fuel cell intellectual property assets we previously acquired from United Technologies Corporation. These assets consist of approximately 900 patents and patent applications as well as know-how primarily related to PEM fuel cell technology.

As consideration for the patents and patent applications, Ballard received $40 million from AUDI, of which $10 million was paid to UTC as a royalty under the terms of our prior acquisition from UTC. As consideration for the know-how, Ballard received $10 million from AUDI on transfer thereof, of which $900,000 was paid to UTC.

In addition, we retained the sole right to use the patents, patent applications and know-how transferred to AUDI for all non-automotive purposes, as well as a non-exclusive right for use in buses, and a non-exclusive right for use in certain limited pre-commercial automotive purposes, all on a royalty-free basis. We also retained the right to provide technology solutions services to other automotive OEMs.

Ballard filed the IP Transfer and License Agreement on SEDAR on February 20, 2015 in conjunction with the filing of a Material Change Report in respect of the transaction.

INTERESTS OF EXPERTS

KPMG LLP, our independent auditors, has audited our consolidated financial statements for the years ended December 31, 2022 and 2021. As at the date hereof, KPMG LLP has confirmed that they are independent with respect to the Corporation within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulations and also that they are independent accountants with respect to the Corporation under all relevant U.S. professional and regulatory standards.

RISK FACTORS

An investment in our common shares involves risk. Investors should carefully consider the risks and uncertainties described below and the other information contained in, and incorporated into, this Annual Information Form, including "Management's Discussion and Analysis" and our financial statements for the year ended December 31, 2022. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties, including those that we do not know about now or that we currently deem immaterial, may also adversely affect our business.

We may not be able to successfully execute our business plan.

The execution of our business plan poses many challenges and is based on a number of assumptions. We may not be able to successfully execute our business plan. If we experience significant cost overruns on our programs, or if our business plan is more costly than we anticipate, certain research and development activities may be delayed or eliminated, resulting in changes or delays to our commercialization plans, or we may be compelled to secure additional funding (which may or may not be available) to execute our business plan. We cannot predict

with certainty our future revenues or results from our operations. If the assumptions on which our revenue or expenditure forecasts are based change, the benefits of our business plan may change as well. In addition, we may consider expanding our business beyond what is currently contemplated in our business plan. Depending on the financing requirements of a potential acquisition or new product opportunity, we may be required to raise additional capital through the issuance of equity or debt. If we are unable to raise additional capital on acceptable terms, we may be unable to pursue a potential acquisition or new product opportunity.

In China a significant amount of operations are conducted by joint ventures that we cannot operate solely for our benefit.

A key part of our strategy is based on the localization of stack and module production with joint venture partners, where we do not control the joint venture. We share ownership and management of the Weichai-Ballard JV and the Synergy-Ballard JV with one or more parties who may not have the same goals, strategies, priorities or resources as we do and may compete with us outside the joint venture.

Joint ventures are intended to be operated for the equal benefit of all co-owners, rather than for our exclusive benefit. Operating a business as a joint venture often requires additional organizational formalities as well as time-consuming procedures for sharing information and making decisions. If a co-owner changes or relationships deteriorate, our success in the joint venture may be materially adversely affected. In addition, because we have a minority share ownership, we have limited control over the actions of each of the Synergy-Ballard JV and the Weichai-Ballard JV. As a result, we may be unable to prevent misconduct or other violations of applicable laws by the Synergy-Ballard JV and the Weichai-Ballard JV. To the extent another party makes decisions that negatively impact the Synergy-Ballard JV or the Weichai-Ballard JV or internal control issues arise within either joint venture, we may have to take responsive or other action or we may be subject to penalties, fines or other related actions for these activities.

We are dependent on third party suppliers for the supply of key materials and components for our products and services.

We have established relationships with third party suppliers, on whom we rely to provide materials and components for our products. A supplier's failure to supply materials or components in a timely manner, or to supply materials and components that meet our quality, quantity or cost requirements, or our inability to obtain substitute sources for these materials and components in a timely manner or on terms acceptable to us, could harm our ability to manufacture our products. In addition, to the extent that our product development plans rely on development of supplied materials or components, we cannot guarantee that we will be able to leverage our relationships with suppliers to support these plans. To the extent that the processes that our suppliers use to manufacture the materials and components are proprietary, we may be unable to obtain comparable materials or components from alternative suppliers, which could adversely affect our ability to produce viable fuel cell products or significantly raise our cost of producing such products.

While supply chain disruptions that occurred globally as a result of the COVID-19 pandemic did not materially impact our business or operations, supply chains could be further disrupted in the future by factors beyond our control. This could include: a reduction in the

supply or availability of commodities or parts required to manufacture our products; lockdowns and workforce disruptions caused by epidemics and pandemics; the impacts of climate change on transportation networks and suppliers manufacturing facilities; and economic sanctions or embargoes.

We are dependent upon Original Equipment Manufacturers ("OEMs") and Systems Integrators to purchase certain of our products.

To be commercially useful, our fuel cell products must be integrated into products manufactured by Systems Integrators and OEMs. We can offer no guarantee that Systems Integrators or OEMs will manufacture appropriate, durable or safe products or, if they do manufacture such products, that they will choose to use our fuel cell products. Any integration, design, manufacturing or marketing problems encountered by Systems Integrators or OEMs could adversely affect the market for our fuel cell products and our financial results.

We, directly or through joint ventures that we are party to, sell a significant portion of our products in the Heavy-Duty Motive market in China and to relatively small System Integrator customers with limited experience developing fuel cell system products on a commercial basis. We do not know whether these customers will be able to successfully develop, manufacture or market products to their customers. In addition, our dependence on such customers in this market increases the risks of difficulties in integration, design, manufacturing or marketing of their products; and that current or future macro-economic conditions in China could negatively affect them and cause them to significantly reduce operations or file for bankruptcy.

In our Heavy-Duty Motive market, we depend on a limited number of customers for a majority of our revenues and are subject to risks associated with early stage market activities related to fuel cell bus, truck, rail and marine applications.

In our Heavy-Duty Motive market, we depend on a limited number of customers for a majority of our revenues and are subject to risks associated with early stage market activities related to fuel cell bus, truck, rail and marine applications. While we continually seeking to expand our customer base, we expect the limited number of customers will continue for the next several years. Our future success is dependent upon the continued purchases of our products by these customers. Any fluctuations in anticipated demand from these customers may negatively impact our business, financial condition and results of operations.

If we are unable to broaden our customer base and expand relationships with other potential customers, our business in the Heavy-Duty Motive market will continue to be impacted by unanticipated demand fluctuations due to our dependence on these customers. Unanticipated demand fluctuations may have a negative impact on our revenues and business, and an adverse effect on our business, financial condition and results of operations.

In addition, our dependence on a small number of customers in our Heavy-Duty Motive market exposes us to numerous other risks, including: (i) a slowdown or delay in the customers' deployment of our products could significantly reduce demand for our products as well as increase pricing pressure on our products due to increased purchasing leverage; (ii) customer-specific factors resulting in a choice to pursue an alternative technology or supplier; (iii) reductions in a few customers' forecasts and demand could result in excess inventories; (iv) the current or future economic conditions could negatively affect our major customers and cause

them to significantly reduce operations or file for bankruptcy; (v) concentration of accounts receivable credit risk, which could have a material adverse effect on our liquidity and financial condition if one of our major customers declared bankruptcy or delayed payment of their receivables; and (vi) changes in government support for zero-emission vehicles could adversely affect the end-user cost of vehicles incorporating our heavy-duty motive products.

We depend on Chinese customers for a significant portion of our revenues in our Heavy-Duty Motive market, and we are subject to risks associated with economic conditions and government policies and practices in China.

We sell MEAs to our Chinese joint ventures for manufacturing fuel cell modules they sell to bus and truck OEMs in China. Any significant economic slowdown in China, change in Chinese government policies and practices around subsidies for zero-emission vehicles or hydrogen fueling infrastructure could have an adverse impact on our business, financial condition and results of operations.

In addition, macro-economic conditions, including government subsidy programs and significant volatility in China's capital markets, may adversely impact our Chinese customers' access to capital and program plans which could adversely impact our business. Furthermore, successful large-scale deployment of zero-emission vehicles will require adequate investment in hydrogen fueling infrastructure and competitive pricing of hydrogen fuel. Inadequate hydrogen fueling infrastructure and/or excessive hydrogen fuel costs could negatively impact deployment of fuel cell powered zero-emission vehicles and may negatively impact our business, financial condition and results of operations. Our performance in China is dependent on our business model of localization, including the strength and performance of our localization partners.

We have limited experience manufacturing fuel cell products on a commercial basis and our experience has been limited to relatively low production volumes.

To date, we have limited experience manufacturing fuel cell products on a commercial basis and our experience has been limited to relatively low production volumes. We are planning to establish a regional headquarters, MEA manufacturing facility and R&D center in China for the first time. We have limited experience developing and manufacturing products that meet foreign regulatory and commercial requirements in our target markets.

We cannot be sure that we will be able to develop efficient, low-cost, high-volume automated processes that will enable us to meet our cost goals and profitability projections. While we currently have sufficient production capacity to fulfill customer orders in the near-term, we expect that we will increase our production capacity based on market demand. We cannot be sure that we will be able to achieve any planned increases in production capacity or that unforeseen problems relating to our manufacturing processes will not occur. Even if we are successful in developing high-volume automated processes and achieving planned increases in production capacity, we cannot be sure that we will do so in time to meet our product commercialization schedule or to satisfy customer demand. If our business does not grow as quickly as anticipated, our existing and planned manufacturing facilities would, in part, represent excess capacity for which we may not recover the cost, in which case our revenues may be inadequate to support our committed costs and planned growth, and our gross margins and

business strategy would be adversely affected. Any of these factors could have a material adverse effect on our business, results of operations and financial performance.

We are subject to risks inherent in international operations, including restrictions on the conversion of currencies and restrictions on repatriation of funds, including out of China.

We face numerous challenges in our international business activities, including restrictions on the conversion of currencies; restrictions on repatriation of funds; nationalization and expropriation; war, insurrection, civil unrest, strikes and other political risks; negotiation of contracts with government entities; unexpected changes in regulatory and other legal requirements; delays or inability to obtain permits; fluctuations in exchange rates; longer accounts receivable requirements and collections; difficulties in managing international operations; potentially adverse tax consequences; and added risks and uncertainties due to different economic, cultural and political environments.

Trade disputes and trade barriers, whether tariff or non-tariff, could prevent us from selling our products in key geographical markets, make our products uncompetitive with local competitors, and prevent us from sourcing key components of our products.

Any of the above factors could have a material adverse effect on our business, results of operations and financial performance.

Certain of our customer supply agreements are subject to certain conditions or risks, including achievement of certain product performance milestones, completion of product development programs, or customer cancellation provisions.

Certain of our customer supply agreements are subject to certain conditions or risks, including achievement of certain product performance milestones, completion of product development programs, or customer cancellation provisions, and it is likely that some future supply agreements will also be subject to similar conditions and risks. There can be no assurance that we will achieve or satisfy the conditions or that customers will not cancel their orders. In addition, our supply agreements may include various pricing structures or reduced pricing tiers based on various factors, including volumes and timing. In setting these reduced pricing tiers, we may assume certain future product cost reductions which are subject to execution risk, including future commodity costs, supply chain costs, and production costs, and we may not be successful in achieving the planned cost reductions. In such circumstances, these agreements may become future onerous contracts if our gross margins become negative, and the value of carried inventory to support product delivery under such contracts may also be adversely impacted. This could have a material and adverse effect on our business operations, financial reporting, financial condition and results of operations.

Global macro-economic and political conditions are beyond our control and may have an adverse impact on our business, our joint ventures, our key suppliers, and/or customers.

While our operations have not been, and are unlikely to be, directly impacted by the current conflict between Ukraine and Russia, the conflict and international response has, and may continue to have, wide-ranging impacts to the global economy and markets. The duration and outcome of the conflict remains uncertain, and could continue to fuel, or exacerbate global tensions, energy and other commodity shortages, supply chain disruptions, inflationary pressures,

weakening sentiment and growth prospects, market volatility, cyberattacks, and the proliferation of sanctions and trade measures.

The implications of the conflict in Ukraine are difficult to predict with any certainty at this time and there remains uncertainty relating to the potential impact of the conflict on our business, our joint ventures, our key suppliers, and/or customers, and it could have a material and adverse effect on our business operations, financial reporting, financial condition and results of operations. Depending on the extent, duration, and severity of the conflict, it may have the effect of heightening many of the other risks described herein.

We are subject to geopolitical risk in all jurisdictions in which we operate. There are risks of political instability in several of the jurisdictions in which we operate, including, from such factors as political conflict, economic sanctions or embargoes, tariffs and corruption. Tensions remain elevated between China and the U.S. and its allies over a number of issues, and the prospect of closer relations between China and Russia add further global and economic uncertainty. Political tensions and potential conflict could contribute to global economic uncertainty and could significantly disrupt the flow of goods, services and people. Such conditions could have a destabilizing effect on our markets and/or increase the costs of conducting business in affected jurisdictions. The materialization of one or more of these risks could have an adverse effect on our business operations, financial reporting, financial condition and results of operations.

Current global economic conditions, including volatility in China and global and regional expectations with respect to the rate of inflation, may adversely affect the development of sales of our products, and thereby delay the commercialization of our products. Customers and/or suppliers may not be able to successfully execute their business plans; product development activities may be delayed or eliminated; new product introduction may be delayed or eliminated; end-user demand may decrease; and some companies may not continue to be commercially viable.

We currently face and will continue to face significant competition, and many current and future competitors may have significantly more resources.

As fuel cell products have the potential to replace existing power products, competition for our products will come from current power technologies, from improvements to current power technologies, and from new alternative energy technologies, including other types of fuel cells. Each of our target markets is currently serviced by existing manufacturers with existing customers and suppliers. These manufacturers use proven and widely accepted technologies such as internal combustion engines and batteries as well as coal, oil and nuclear-powered generators.

Additionally, there are competitors working on developing technologies other than PEM fuel cells (such as other types of fuel cells and advanced batteries) in each of our targeted markets. Some of these technologies are as capable of fulfilling existing and proposed regulatory requirements as the PEM fuel cell.

Within the PEM fuel cell market, we also have a large number of competitors. Across the world, corporations, national laboratories and universities are actively engaged in the

development and manufacture of PEM fuel cell products and components. Each of these competitors has the potential to capture market share in each of our target markets.

Many of our competitors have substantial financial resources, customer bases, manufacturing, marketing and sales capabilities, and businesses or other resources, which give them significant competitive advantages over us.

We could be adversely affected by risks associated with capital investments and new business processes.

We may in the future, seek to expand our business through investments in capital equipment and new business processes.

While necessary for the growth of our business, investments in capital equipment and new business processes involve allocating resources based on future expectations that may or may not be correct. Investments in capital equipment and new business processes may not address the requirements of the targeted markets in the future and may result in lower-than-expected returns on such investments.

The above risks and difficulties, if they materialize, could disrupt our ongoing business, distract management, result in the loss of key personnel, increase expenses and otherwise have a material adverse effect on our business, results of operations and financial performance.

We could be adversely affected by risks associated with mergers and acquisitions.

We may in the future, seek to expand our business through acquisitions and investments.

Acquisitions will be in part dependent on management's ability to identify, acquire and develop suitable acquisition targets in both new and existing markets. In certain circumstances, acceptable acquisition targets might not be available. Acquisitions involve a number of risks, including: (i) the possibility that we, as successor owner, may be legally and financially responsible for liabilities of prior owners; (ii) the possibility that we may pay more than the acquired company or assets are worth; (iii) the additional expenses associated with completing an acquisition and amortizing any acquired intangible assets; (iv) the difficulty of integrating the operations and personnel of an acquired business; (v) the challenge of implementing uniform standards, controls, procedures and policies throughout an acquired business; (vi) the inability to integrate, train, retrain and motivate key personnel of an acquired business; (vii) the potential disruption of our ongoing business and the distraction of management from our day-to-day operations; and (viii) an inability to realize the full extent of, or any of, the anticipated benefits of a merger or acquisition transaction, including failure to realize projected revenue gains or achieve expected cost savings within the assumed timeframe.

The above risks and difficulties, if they materialize, could disrupt our ongoing business, distract management, result in the loss of key personnel, increase expenses and otherwise have a material adverse effect on our business, results of operations and financial performance.

We could lose or fail to attract the personnel necessary to operate our business.

Our success depends in large part on our ability to attract and retain key management, engineering, scientific, marketing, manufacturing and operating personnel. As we develop additional manufacturing capabilities and expand the scope of our operations, we will require

more skilled personnel. Recruiting personnel for the fuel cell industry is highly competitive. We may not be able to continue to attract and retain qualified executive, managerial and technical personnel needed for our business. Our failure to attract or retain qualified personnel could have a material adverse effect on our business.

Warranty claims, product performance guarantees, or indemnification claims could negatively impact our gross margins and financial performance.

There is a risk that our warranty accrual estimates are not sufficient and we may recognize additional expenses, including those related to litigation, as a result of warranty claims in excess of our current expectations. Such warranty claims may necessitate changes to our products or manufacturing processes and/or a product recall, all of which could hurt our reputation and the reputation of our products and may have an adverse impact on our financial performance and/or on future sales. While we attempt to mitigate these risks through product development, quality assurance and customer support and service processes, there can be no assurance that these processes are adequate. Even in the absence of any warranty claims, a product deficiency such as a design or manufacturing defect could be identified, necessitating a product recall or other corrective measures, which could hurt our reputation and the reputation of our products and may have an adverse impact on our financial performance and/or on future sales.

New products may have different performance characteristics from previous products. In addition, we have limited field experience with existing commercial products from which to make our warranty accrual estimates.

Our technology and products may not meet the market requirements, including requirements relating to performance, integration and/or cost.

The market requirements for our products and, by extension, our technology changes rapidly. Our existing and planned products may not meet the market requirements for any number of characteristics, including performance, integration characteristics, cost, freeze-protection, ingress protection, and durability.

We may not be able to sell our products on a commercially viable basis on the timetable we anticipate, or at all.

We cannot guarantee that we will be able to develop commercially viable fuel cell products on the timetable we anticipate, or at all. Selling our fuel cell products on a commercially viable basis requires technological advances to improve the durability, reliability and performance of these products, and to develop commercial volume manufacturing processes for these products. It also depends upon our ability to reduce the costs of these products, since they are currently more expensive than products based on existing technologies, such as internal combustion engines and batteries. We may not be able to sufficiently reduce the cost of these products without reducing their performance, reliability and durability, which would adversely affect the willingness of consumers to buy our products. We cannot guarantee that we will be able to internally develop the technology necessary to sell our fuel cell products on a commercially viable basis or that we will be able to acquire or license the required technology from third parties.

In addition, before we release any product to market, we subject it to numerous field tests. These field tests may encounter problems and delays for a number of reasons, many of which are beyond our control. If these field tests reveal technical defects or reveal that our products do not meet performance goals, our anticipated timeline for selling our products on a commercially viable basis could be delayed, and potential purchasers may decline to purchase our products.

A mass market for our products may never develop or may take longer to develop than we anticipate.

Our fuel cell products represent emerging markets, and we do not know whether end-users will want to use them in commercial volumes. In such emerging markets, demand and market acceptance for recently introduced products and services are subject to a high level of uncertainty and risk. The development of a mass market for our fuel cell products may be affected by many factors, some of which are beyond our control, including the emergence of newer, more competitive technologies and products, the cost of fuels used by our products, regulatory requirements, consumer perceptions of the safety of our products and related fuels, and end-user reluctance to buy a new product.

If a mass market fails to develop, or develops more slowly than we anticipate, we may never achieve profitability. In addition, we cannot guarantee that we will continue to develop, manufacture or market our products if sales levels do not support the continuation of the product.

We may experience cybersecurity threats to our information technology infrastructure and systems, and unauthorized attempts to gain access to our proprietary or confidential information, as may our customers, suppliers and/or partners.

We depend on information technology infrastructure and systems ("**IT Systems**"), hosted internally and outsourced, to process, transmit and store electronic data and financial information (including proprietary or confidential information), and manage business operations. Our business requires the appropriate and secure utilization of sensitive, confidential or personal data or information belonging to our employees, customers and partners. In addition, Ballard proprietary or confidential information may be stored on IT Systems of our suppliers, customers and partners. Increased global cybersecurity vulnerabilities, threats and more sophisticated and targets cyber-related attacks pose a risk to the security of Ballard's and its customers', partners', suppliers' and third-party service providers' IT Systems and the confidentiality, availability and integrity of Ballard's and its customers' and partners' data or information. We may be subject to cybersecurity risks or other breaches of our IT Systems intended to obtain unauthorized access to our information and that of our business partners, destroy data or disable, degrade or sabotage our IT Systems through the introductions of computer viruses, fraudulent emails, cyber attached and other means, and such breaches could originate from a variety of sources including our own employees or unknown third parties. While we have made investments seeking to address these threats, including monitoring of networks and systems, hiring of experts, employee training and security policies for employees, we may face difficulties in anticipating and implementing adequate preventative measures and remain potentially vulnerable. We must rely on our own safeguards as well as the safeguards put in place by our suppliers, customers and partners to mitigate the threats. Our internal systems are audited for cybersecurity vulnerabilities by third party security firms to ensure we are prepared for new and emerging threats. Our suppliers,

customers and partners have varying levels of cybersecurity expertise and safeguards, most have yearly compliance audits that are available upon request.

An IT System failure or non-availability, cyber-attack or breach of systems security could disrupt our operations, cause financial loss, a loss of business opportunities, misappropriation or unauthorized release of confidential/proprietary or personal information, damage to our systems and those with whom we do business, violation of privacy laws, litigation, regulatory penalties and remediation and restoration costs, as well as increased costs to maintain our IT Systems. Cybersecurity breaches or failures of our IT Systems could have an adverse effect on our business operations, financial reporting, financial condition and results of operations, and result in reputational damage. Furthermore, given the highly evolving nature of cybersecurity threats or disruptions and their increased frequency, the impact of any future incident cannot be easily predicted or mitigated, and the costs related to such threats or disruptions may not be fully insured or indemnified by other means.

We depend on our intellectual property, and our failure to protect that intellectual property could adversely affect our expected future growth and success.

Failure to protect our existing intellectual property rights may result in the loss of our exclusivity regarding, or the right to use, our technologies. If we do not adequately ensure our freedom to use certain technology, we may have to pay others for rights to use their intellectual property, pay damages for infringement or misappropriation, or be enjoined from using such intellectual property. We rely on patent, trade secret, trademark and copyright laws to protect our intellectual property. Some of our intellectual property is not covered by any patent or patent application, and the patents to which we currently have rights expire between 2021 and 2040. Our present or future-issued patents may not protect our technological leadership, and our patent portfolio may not continue to grow at the same rate as it has in the past. Moreover, our patent position is subject to complex factual and legal issues that may give rise to uncertainty as to the validity, scope and enforceability of a particular patent. Accordingly, there is no assurance that: (i) any of the patents owned by us or other patents that third parties license to us will not be invalidated, circumvented, challenged, rendered unenforceable or licensed to others; or (ii) any of our pending or future patent applications will be issued with the breadth of claim coverage sought by us, if issued at all. In addition, effective patent, trade secret, trademark and copyright protection may be unavailable, limited or not applied for in certain countries.

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

Certain of our intellectual property have been licensed to us on a non-exclusive basis from third parties who may also license such intellectual property to others, including our competitors. If necessary or desirable, we may seek further licences under the patents or other intellectual property rights of others. However, we may not be able to obtain such licences or the terms of any offered licences may not be acceptable to us. The failure to obtain a licence from a third party for intellectual property we use could cause us to incur substantial liabilities and to

suspend the manufacture or shipment of products or our use of processes requiring the use of such intellectual property.

We may become subject to lawsuits in which it is alleged that we have infringed the intellectual property rights of others or commence lawsuits against others who we believe are infringing upon our rights. Our involvement in intellectual property litigation could result in significant expense to us, adversely affecting the development of sales of the challenged product or intellectual property and diverting the efforts of our technical and management personnel, whether or not such litigation is resolved in our favour.

Emerging diseases, like COVID-19, may adversely affect our operations (including our joint ventures in China), our suppliers, our customers and/or partners.

Emerging diseases, like COVID-19, and government actions to address them, may adversely affect our operations, our suppliers, our customers, or our joint ventures.

A local, regional, national or international epidemic, including the COVID-19 pandemic, may prevent, or cause delays in, acquiring components of our products, producing our products, delivering our services, completing sales of our products or services whether by direct impacts to our operations, or impacts to the operations of our suppliers, customers or to the financial markets. Our joint ventures may similarly be affected.

The continued magnitude, outcome and duration of epidemics and pandemics are difficult to accurately assess, but their impacts could:

- worsen economic conditions, which could negatively impact levels of investment in fuel cell technology deployments by governments and/or our customers;
- impact our production levels, including as a result of full or partial shutdowns of our manufacturing facilities;
- impact our customers' or joint venture's production volume levels, including as a result of prolonged unscheduled facility shutdowns;
- cause potential shortages of employees to staff our facilities, or the facilities of our customers, suppliers or joint ventures;
- lead to prolonged disruptions of critical components, including because of the bankruptcy/insolvency of one or more suppliers; or
- result in governmental regulation adversely impacting our business,

all of which could have a material adverse effect on our business, financial condition and results of operations, which could be rapid and unexpected.

In our Technology Solutions market, we depend on a limited number of customers for a majority of our revenues and are subject to risks related to the continued commitment of these customers to their fuel cell programs.

We provide most of our services in the Technology Solutions market to two customers, the Volkswagen Group and the Weichai-Ballard JV, and while we are continually seeking to expand our customer base, we expect this will continue for the foreseeable future. Our future success in this market is dependent upon the continued demand by these customers and

expansion of our customer base. Any decline in or loss of demand from these customers or other customers for any reason may have a negative impact on our revenues, and an adverse effect on our business, financial condition and results of operations.

In addition, our dependence on a limited number of customers in this market exposes us to numerous other risks, including: current or future economic conditions could negatively affect our major customers and cause them to significantly reduce operations or file for bankruptcy.

In our Material Handling market, we depend on a single customer for the majority of our revenues and are subject to risks from that customer's internal fuel cell stack development and commercialization plans.

We sell most of our products in the Material Handling market to a single customer, Plug Power, and while we are continually seeking to expand our customer base, we expect this will continue for the foreseeable future. Plug Power has developed its own fuel cell stacks to integrate into their material handling products. If Plug Power decides to solely use its own fuel cell stacks, then these fuel cell stacks may displace our fuel cell stacks. Any decline in business with this customer could have an adverse impact on our business, financial condition and results of operations. Any fluctuations in demand from this customer or other customers may negatively impact our business, financial condition and results of operations.

If we are unable to broaden our customer base and expand relationships with other potential customers, our business in this market will continue to be impacted by unanticipated demand fluctuations due to our dependence on a single customer. Unanticipated demand fluctuations can have a negative impact on our revenues and business, and an adverse effect on our business, financial condition and results of operations. In addition, our dependence on a single customer in this market exposes us to numerous other risks, including: (i) a slowdown or delay in the customer's deployment of our products could significantly reduce demand for our products as well as increase pricing pressure on our products due to increased purchasing leverage; (ii) reductions in the customer's forecasts and demand could result in excess inventories; (iii) the current or future economic conditions could negatively affect the customer and cause it to significantly reduce operations or file for bankruptcy; (iv) concentration of accounts receivable credit risk, which could have a material adverse effect on our liquidity and financial condition if the customer declared bankruptcy or delayed payment of their receivables; and (v) reductions in the customer's demand as a result of their own strategic action to dual source their supply of fuel cell stacks.

Climate change risks may adversely affect our operations, or the operations of our suppliers, customers and/or partners.

Our business interruption risk is exacerbated by an increasing number of extreme weather events related to climate change. Extreme weather events such as floods and fires caused or exacerbated by climate change could impair our ability to carry on business. For example, extreme weather events could cause catastrophic destruction to some of our or our supplier's and/or customer's facilities, which could in turn disrupt our production and/or prevent us from supplying products to our customers.

Transitioning to a lower-carbon economy creates opportunities for us and may increase demand for zero-emission products like those that we produce. However, we may also become

subject to potential negative impacts of new environmental regulations, laws, and policies that could result in increased costs of carrying on our business. Our financial condition may be negatively impacted by costs associated with changes in environmental laws and regulations and regulatory enforcement.

Public policy and regulatory changes could hurt the market for our products and services.

Changes in existing government regulations and the emergence of new regulations with respect to fuel cell products may hurt the market for our products and services. Environmental laws and regulations have driven interest in fuel cells. We cannot guarantee that these laws and policies, including subsidies or incentives associated with the adoption of clean energy products, will not change. Changes in these laws and other laws and policies, or the failure of these laws and policies to become more widespread, could result in manufacturers abandoning their interest in fuel cell products or favouring alternative technologies. In addition, as fuel cell products are introduced into our target markets, governments may impose burdensome requirements and restrictions on the use of fuel cell products that could reduce or eliminate demand for some or all of our products and services.

Like many industries, the hydrogen and fuel cell industries use perfluoroalkyl and polyfluoroalkyl compounds ("**PFAs**") in products, including materials and components of PEM fuel cells and electrolyzers. There are accelerating regulatory trends focused on reducing or eliminating the presence of PFAs in the environment. While we are working with our supply base to eliminate the use of PFAs in materials and components used in our fuel cell products, including our membrane electrode assemblies, there can be no assurance that our suppliers would be able to successfully achieve reductions of PFAs if required to comply with future regulatory requirements.

Government budgetary constraints could reduce the demand for our products by restricting the funding available for green hydrogen production and/or zero-emission products like those that we produce. We cannot guarantee that current government direct and indirect financial support for our products will continue.

Regulatory agencies could require us to modify or terminate existing investments, acquisitions or joint ventures and could delay or prevent future opportunities.

Our current and future investment, acquisition and joint venture opportunities are, or may be, subject to the jurisdiction of the Department of Innovation, Science and Economic Development ("**ISED**") under the Investment Canada Act (the "**ICA**"), the U.S. Federal Trade Commission ("**FTC**") and Department of Justice ("**DOJ**") under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 (the "**HSR Act**") and related legislation and regulations, the Committee on Foreign Investment in the United States ("**CFIUS**") and other similar regulatory schemes. The ICA regulates the acquisition of control of a Canadian business by a non-Canadian and requires that certain transactions be reviewed by ISED before they are permitted to close. The HSR Act regulates certain transactions that affect U.S. commerce and requires that certain transactions be reported to the FTC and DOJ before they are permitted to close. CFIUS has jurisdiction over investments in "U.S. businesses" by non-U.S. persons that involve U.S. national security concerns, which concerns may change or evolve over time in response to political, economic or other events. Unlike the ICA and the HSR Act, CFIUS may intervene in the

transaction before or after the closing if the parties to a transaction do not make a voluntary or required filing with CFIUS.

Because we are a British Columbia-based company with operations and assets in the United States, Europe, the UK and China, as well as joint ventures and significant shareholders in China, from time to time we have received and responded to inquiries from these agencies. We may receive additional inquiries from, or be required to make filings with, these agencies in the future. Any of these agencies could delay or prevent us from participating in future investment, acquisition or joint venture opportunities, or could require us to take steps to address concerns identified by the regulatory agency with respect to existing investments or joint ventures. Each of these regulatory agencies has broad discretion to investigate and intervene in transactions that fall within the scope of their respective regulatory authority. In addition, CFIUS could intervene in our previously completed transactions and require us to modify or amend the terms of those transactions, or terminate or unwind all or part of the transactions, if CFIUS determines that it is necessary to address U.S. national security concerns, without regard to whether the transaction was completed and operated in accordance with applicable law. If these regulatory agencies modify, delay, prevent or terminate our participation in these investments, acquisitions and joint ventures, our results of operations or financial condition may be adversely impacted.

Exchange rate fluctuations are beyond our control and may have a material adverse effect on our business, operating results, financial condition and profitability.

We report our financial results in United States dollars. Our operating expenditures are particularly affected by fluctuations in the exchange rate between the Canadian dollar and the United States dollar. We generate the majority of our revenues in United States dollars while the majority of our operating expenditures are incurred in Canadian dollars. As a result, any increase in the value of the Canadian dollar, relative to the United States dollar, increases the amount of reported operating expenditures in excess of any corresponding increase in revenues and gross margins. Exchange rate fluctuations are beyond our control, and the Canadian dollar may appreciate against the United States dollar in the future, which would result in higher operating expenditures and lower net income. In order to reduce the potential negative effect of a strengthening Canadian dollar, we occasionally enter into various hedging programs. Regardless, if the Canadian dollar increases in value, it will negatively affect our financial results and our competitive position compared to other fuel cell product manufacturers in jurisdictions where operating costs are lower.

Commodity price fluctuations are beyond our control and may have a material adverse effect on our business, operating results, financial condition and profitability.

Commodity prices, in particular the price of platinum and palladium, affect our costs. Platinum and palladium are key components of our fuel cell products. Platinum and palladium are scarce natural resources and we are dependent upon a sufficient supply of these commodities. While we do not anticipate significant near or long-term shortages in the supply of platinum or palladium, such shortages could adversely affect our ability to produce commercially viable fuel cell products or significantly raise our cost of producing such products. In order to reduce the impact of platinum price fluctuations, we occasionally enter into various hedging programs.

We expect our cash reserves will be reduced due to future operating losses, working capital requirements, capital expenditures, and potential acquisitions and other investments by our business, including in certain hydrogen infrastructure and growth equity funds, and we cannot provide certainty as to how long our cash reserves will last or that we will be able to access additional capital when necessary.

We have a history of losses and negative cash flows and expect to incur continued losses and generate negative cash flow until we can produce sufficient revenues to cover our costs. We expect to incur continued losses and generate negative cash flow until we can produce sufficient revenues to cover our costs. Further, we are obligated to fund HyCap and Clean H2 to our agreed upon contribution amount. We may never become profitable. Even if we do achieve profitability, we may be unable to sustain or increase our profitability in the future. There are substantial uncertainties associated with our achieving and sustaining profitability. We expect our cash reserves will be reduced due to future operating losses, working capital requirements, and we cannot provide certainty as to how long our cash reserves will last or that we will be able to access additional capital if and when necessary.

Potential fluctuations in our financial and business results make forecasting difficult and may restrict our access to funding for our commercialization plan.

We expect our revenues and operating results to vary significantly from quarter to quarter. As a result, quarter-to-quarter comparisons of our revenues and operating results may not be meaningful. Due to the stage of development of our business, it is difficult to predict our future revenues or results of operations accurately. We are also subject to normal operating risks such as credit risks, foreign currency risks and fluctuations in commodity prices. As a result, it is possible that in one or more future quarters, our operating results may fall below the expectations of investors and securities analysts. Not meeting investor and security analyst expectations may materially and adversely impact the trading price of our common shares and restrict our ability to secure required funding to pursue our commercialization plans.

Our products use flammable fuels and some generate high voltages, which could subject our business to product safety, product liability or other claims.

Our business exposes us to potential product safety, product liability and similar claims that are inherent in electrical products, and in products that use hydrogen or hydrogen-rich reformate fuels. High-voltage electricity poses potential shock hazards, and hydrogen is a flammable gas and therefore a potentially dangerous fuel. Any accidents involving our products or other hydrogen-based products could materially impede widespread market acceptance and demand for our fuel cell products. Involvement in litigation could result in significant expense to us, adversely affecting the development and sales of our products, and diverting the efforts of our technical and management personnel, whether or not the litigation is resolved in our favour. In addition, we may be held responsible for damages beyond the scope of our insurance coverage. We also cannot predict whether we will be able to maintain our insurance coverage on acceptable terms.

We could be liable for environmental damages resulting from our research, development or manufacturing operations.

Our business exposes us to the risk of harmful substances escaping into the environment, resulting in personal injury or loss of life, damage to or destruction of property, and natural resource damage. Depending on the nature of the claim, our current insurance policies may not adequately reimburse us for costs incurred in settling environmental damage claims, and in some instances, we may not be reimbursed at all. Our business is subject to numerous laws and regulations that govern environmental protection and human health and safety. These laws and regulations have changed frequently in the past and it is reasonable to expect additional and more stringent changes in the future. Our operations may not comply with future laws and regulations, and we may be required to make significant unanticipated capital and operating expenditures. If we fail to comply with applicable environmental laws and regulations, governmental authorities may seek to impose fines and penalties on us, or to revoke or deny the issuance or renewal of operating permits, and private parties may seek damages from us. Under those circumstances, we might be required to curtail or cease operations, conduct site remediation or other corrective action, or pay substantial damage claims.

ADDITIONAL INFORMATION

Additional information regarding Ballard may be found on the Canadian Securities Administrator's SEDAR website at www.sedar.com and on the United States Securities and Exchange Commission's EDGAR website at www.sec.gov. In particular, additional information regarding directors' and officers' remuneration and indebtedness, principal holders of our securities and securities authorized for issuance under security compensation plans is contained in our information circular for our most recent annual meeting of securityholders that involved the election of directors. Additional financial information is provided in our financial statements and Management's Discussion and Analysis for the most recently completed financial year.

Copies of this Annual Information Form and the documents incorporated by reference herein, our comparative financial statements (including the auditors' report) for the year ended December 31, 2022, each interim financial statement issued after December 31, 2022, our management proxy circular and our Annual Report may be obtained upon request from our Corporate Secretary, 9000 Glenlyon Parkway, Burnaby, British Columbia, V5J 5J8, or on our website at www.ballard.com.

APPENDIX "A"

AUDIT COMMITTEE MANDATE

The Board has established an Audit Committee (the "**Committee**") to assist the Board in fulfilling its oversight responsibilities regarding the integrity of the Corporation's accounting and financial reporting, the Corporation's systems of internal controls over financial reporting, the independence and performance of the Corporation's external and internal auditors, the identification and management of the Corporation's risks, the Corporation's Whistleblower Reporting processes, the Corporation's financial policies and the review and approval of related party transactions, as further described below.

In this Mandate, the "**Corporation**" means Ballard Power Systems Inc. and a "**director**" means a member of the Corporation's board of directors (the "**Board**"). "**SGC**" means the Corporation's Sustainability & Governance Committee.

Composition and Eligibility

A) The Committee will have a minimum of three members, including the chair of the Committee. Following each annual meeting of shareholders of the Corporation the Board, upon the recommendation of the SGC, will appoint the members of the Committee, including the Committee chair. Any member may be removed or replaced at any time by the Board and will cease to be a member upon ceasing to be a director of the Corporation. Each member will hold office until the close of the next annual meeting of shareholders of the Corporation or until the member resigns or is replaced, whichever occurs first.

B) Each member of the Committee will be an independent director as set out in applicable securities laws, rules and regulations, and standards of the stock exchanges on which the Corporation's securities are listed.

C) All members of the Committee will be financially literate, as defined in accordance with applicable securities laws, rules and regulations, and standards of the stock exchanges on which the Corporation's securities are listed.

D) At least one member of the Committee must be an audit committee "financial expert" as defined by applicable securities laws, rules and regulations.

E) Any member of the Committee who serves on more than three public company audit committees must inform the Chair of the Board, so that the Board may consider and discuss with such member any issues related to his or her effectiveness and time commitment.

Meetings & Quorum

A) The Committee will meet at least quarterly and otherwise as necessary. Any member of the Committee may request additional meetings.

B) Notice of the time and place of each meeting will be given to each member of the Committee either by telephone or other electronic means not less than 1 week before the time of the meeting. Meetings may be held at any time if all Committee members have

waived or are deemed to have waived notice of the meeting. A Committee member participating in a meeting will be deemed to have waived notice of the meeting.

C) The Board Chair will attend meetings of the Committee as an ex officio member. The Board Chair will be considered as a Committee member for purposes of establishing quorum and will be entitled to vote on matters considered at the meeting. Unless the Committee chair determines otherwise, any other directors who are not members of the Committee will not be allowed to attend meetings of the Committee.

D) The CEO, CFO, Controller and internal auditor will have direct access to the Committee and any of them may request a meeting of the Committee be called by notifying the chair of the Committee. They will receive notice of every meeting of the Committee and will normally be requested to attend, other than in cases where the Committee wishes to meet in-camera. Other executives or employees of the Corporation will attend at the request of the Committee Chair.

E) Meetings will be chaired by the Chair of the Committee, or if the Chair is absent, by a member chosen by the Committee from among themselves.

F) A majority of Committee members constitute a quorum necessary for the transaction of business at Committee meetings. A quorum once established is maintained even if members of the Committee leave the meeting prior to conclusion.

G) The Corporate Secretary or his or her nominee will act as Secretary to the Committee.

H) All decisions made by the Committee may be made at a Committee meeting or evidenced in writing and signed by all Committee members, which will be fully effective as if it had been made or passed at a Committee meeting.

I) As part of every regularly-scheduled meeting, the Committee will hold in-camera sessions with: (1) the external auditors and the internal auditors; (2) with the external auditors only; and (3) of the Committee itself, without management or management directors present. The Committee may also hold other in-camera sessions with such members of management present as the Committee deems appropriate.

J) The Committee will report to the Board on its meetings and each member of the Board will have access to the minutes of the Committee's meetings, regardless of whether the director is a member of the Committee.

Duties and Responsibilities

A) Financial Reporting Control Systems

The Committee is responsible for monitoring the quality and integrity of the Corporation's accounting and financial reporting process through discussions with management, the external auditors and the internal auditors.

In discharging this responsibility, the Committee will review:

(i) with management and the external auditors, the Company's significant accounting policies, including the impact of alternative accounting policies, and any proposed

changes thereto; and key management estimates, risks and judgments that could materially affect the financial results;

(ii) emerging accounting issues and their potential impact on the Company's financial reporting;

(iii) with management any significant changes in financial risks facing the Corporation;

(iv) management's report assessing the adequacy and effectiveness of the Corporation's disclosure controls and procedures and systems of internal control; and

(v) the evaluation by either the internal or external auditors of management's internal control systems, and management's responses to any identified deficiencies or weaknesses.

Prior to public disclosure, the Committee will review and approve (where authority has been delegated by Board to the Committee) or recommend to the Board for approval:

(i) the audited annual consolidated financial statements and unaudited interim condensed consolidated financial statements of the Corporation;

(ii) the interim and annual management's discussion and analysis of financial condition and results of operations (MD&A) of the Corporation; and

(iii) all other material financial public disclosure documents of the Company and those of its subsidiaries that are reporting issuers, including prospectuses, material press releases with financial results, the Annual Information Form and management information circular.

B) External Auditors

The external auditors will report directly to the Committee and the Committee will:

(i) recommend to the Board and the Corporation's shareholders the appointment of external auditors; determine their compensation; and monitor and evaluate their qualifications, resources, performance and independence;

(ii) oversee the work of the external auditors and review and approve the annual audit plan of the external auditors, including the scope of the audit to be performed, and performance against the audit plan;

(iii) pre-approve all audit, audit-related and non-audit services to be provided to the Corporation or any of its subsidiaries, by the external auditors (and its affiliates), in accordance with applicable securities laws, rules and regulations;

(iv) discuss with the external auditors the quality and acceptability of the Corporation's accounting policies, including:

a) all critical accounting policies and practices;

b) all alternative treatments of financial information that have been discussed with management, implications of their use and the external auditors' "preferred treatment";

c) any other material written communications between the external auditors and management;

(v) review reports of the external auditors;

(vi) review the quarterly and annual representation letters given by management to the external auditors;

(vii) at least annually, obtain and review a report by the external auditors describing:

a) the firm's internal quality-control procedures;

b) any material issues raised by the most recent internal quality control review, or peer review of the firm, or by any inquiry or investigation by governmental, regulatory or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the firm, and any steps taken to deal with such issues; and

c) all relationships between the external auditors and the Company;

(viii) annually assess and confirm the independence of the external auditors and require the external auditors to deliver an annual report to the Committee regarding its independence, and hold discussions with the external auditors as to any relationship or services that may impact their objectivity or independence;

(ix) ensure that the audit partners representing the external auditors meet the rotation requirements set out by applicable securities laws, rules and regulations, and standards of the stock exchanges on which the Corporation's securities are listed; and

(x) review and approve hiring policies regarding partners, employees and former partners and employees of current and former external auditors in accordance with applicable securities laws, rules and regulations and the Corporation's policies.

C) Monitoring Internal Auditors

The internal auditors will report quarterly to the Committee on the results of internal audit activities and will also have direct access to the chair of the Committee when the internal auditors determine it is necessary. The Committee will:

(i) annually approve the appointment of the internal auditor (or persons responsible for the function);

(ii) review the scope of responsibilities and effectiveness of the internal audit team, its reporting relationships, activities, organizational structure and resources, its independence from management and its working relationship with the external auditors;

(iii) oversee the work of the internal auditors including reviewing and approving the annual internal audit plan and updates thereto; and

(iv) review the reports of the internal auditors on the status of significant internal audit findings, recommendations and management's responses and review any other reports of the internal auditors.

D) Financial Management

The Committee will at least annually:

(i) review with management and approve, or make recommendations to the Board to approve, the Corporation's capital structure strategy; financial policies and investment policies, including debt and equity components; current and expected financial leverage, interest rate and foreign exchange exposures; taking in consideration current and future business needs (including the Annual Operating Plan), capital markets and the Corporation's credit rating; and

(ii) review compliance with financial policies.

E) Cybersecurity

The Committee will:

(i) oversee policies, procedures, plans and execution intended to provide security, confidentiality, availability and integrity of the Corporation's data, including personal information and customer and other third party confidential information in the Corporation's possession or custody;

(ii) oversee the effectiveness of the Corporation's policies and procedures with respect to its information technology systems, including enterprise cybersecurity and privacy;

(iii) oversee policies and procedures of the Corporation in preparation for responding to any material incidents;

(iv) oversee the Corporation's compliance with applicable information security and data protection laws and industry standards, and oversee any internal audits of the Corporation's information technology systems and processes;

(v) review the Corporation's cyber insurance policies to ensure appropriate coverage;

F) Risk Management and Internal Controls

The Committee will:

(i) at least annually, review the Corporation's risk assessment and risk management policies, including the Corporation's insurance coverage, and management's compliance with them;

(ii) review with management, the external auditors and legal counsel, as necessary, any litigation, claim or other contingency, including any tax assessment, that could have a material effect upon the financial position or operating results of the Corporation and the appropriateness of the disclosure thereof in the documents reviewed by the Committee;

(iii) review and recommend to the Board for approval of the Corporation's delegation of financial authority;

(iv) while ensuring confidentiality and anonymity, ensure management has established procedures for the receipt, retention and treatment of complaints received by the Corporation regarding accounting, internal accounting controls or auditing matters or employee concerns regarding accounting or auditing matters or breaches of the Corporation's ethics policies ("Whistleblower Reporting");

(v) review quarterly reports on any Whistleblower Reporting complaints received by the Corporation;

(vi) review management's approach for safeguarding corporate assets, data and information systems, the adequacy of staffing of key financial functions (including succession plans for the Corporation's CFO and Controller) and their plans for improvements;

(vii) review the appointment of the financial senior executives of the Corporation, prior to recommendation by the SGC to the Board;

(viii) assist the Board with the oversight of the Corporation's compliance with applicable legal and regulatory requirements; and

(ix) review other risk management matters from time to time as the Committee may consider suitable or the Board may specifically direct.

G) Related Party Transactions

A related party transaction is defined as a transaction or a series of transactions in which the Corporation or any of its subsidiaries is to be a party, which involves an amount exceeding U.S. $120,000 in aggregate and in which any of the following persons have a direct or indirect material interest:

- a director or executive officer of the Corporation;
- any nominee for election as a director of the Corporation;
- any security holder of the Corporation known by the Corporation to own (of record or beneficially) more than 5% of any class of the Corporation's voting securities; and
- any member of the immediate family of any of the foregoing persons.

In carrying out its responsibilities in reviewing and approving related party transactions, the Committee will:

(i) receive details of all related party transactions proposed by the Corporation, and actual and potential conflicts of interest relating thereto, to verify their propriety and that disclosure is appropriate;

(ii) if a valuation or fairness opinion is required by any applicable statutes or regulations, supervise the preparation of such valuation or fairness opinion; and

(iii) if approval of the Board of directors is necessary, provide a recommendation to the Board of directors with respect to the related party transaction.

H) Other

The Committee will:

(i) annually review the audit of the expense reports of the Chair of the Board of Directors and the CEO;

(ii) review the minutes of the Corporation's Disclosure Committee; and

(iii) evaluate, at least annually, the adequacy of this Mandate and the Committee's performance, and report its evaluation and any recommendations for change to the Board.

Authority

A) The Committee is authorized to request the presence, at any meeting, of senior management, legal counsel or anyone else who could contribute substantively to the subject of the meeting.

B) The Committee is empowered to investigate any activity of the Corporation and all employees are to co-operate as requested by the Committee. The Committee may retain outside advisors having special expertise to assist it in fulfilling its responsibilities, and determine the appropriate level of remuneration for such outside advisors.

C) The Committee may form and delegate authority to Committee members or subcommittees.

D) Nothing contained in the above mandate is intended to assign to the Audit Committee the Board's responsibility to ensure the Corporation's compliance with applicable laws or regulations or to expand applicable standards of liability under statutory or regulatory requirements for the directors or the members of the Audit Committee.

Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, **R. Randall MacEwen,** certify that:

1. I have reviewed this annual report on Form 40-F of Ballard Power Systems Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the issuer as of, and for, the periods presented in this report;

4. The issuer's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the issuer and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the issuer, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

   c) Evaluated the effectiveness of the issuer's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the issuer's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect the issuer's internal control over financial reporting; and

5. The issuer's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the issuer's auditors and the audit committee of the issuer's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the issuer's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the issuer's internal control over financial reporting.

Date: March 17, 2023

By: /s/ R. Randall MacEwen
Name: R. Randall MacEwen
President and Chief Executive Officer

Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, **Paul Dobson,** certify that:

1. I have reviewed this annual report on Form 40-F of Ballard Power Systems Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the issuer as of, and for, the periods presented in this report;

4. The issuer's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the issuer and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the issuer, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

   c) Evaluated the effectiveness of the issuer's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the issuer's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect the issuer's internal control over financial reporting; and

5. The issuer's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the issuer's auditors and the audit committee of the issuer's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the issuer's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the issuer's internal control over financial reporting.

Date: March 14, 2022

By: /s/ Paul Dobson
Name: Paul Dobson
Senior Vice President and Chief Financial Officer

Section 906 Certification

Certification Pursuant to
18 U.S.C. Section 1350

As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Annual Report on Form 40-F of Ballard Power Systems Inc., a corporation organized under the laws of British Columbia (the "Company"), for the period ending December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Company certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a) or 78o(d)); and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 17, 2023

/s/ R. Randall MacEwen
R. Randall MacEwen
President and Chief Executive Officer (principal executive officer)

Dated: March 17, 2023

/s/ Paul Dobson
Paul Dobson
Senior Vice President and Chief Financial Officer (principal financial officer)

KPMG LLP
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Vancouver BC V7Y 1K23
Canada
Telephone (604) 692-3000
Fax (604) 691-3031

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Ballard Power Systems Inc.

We, KPMG LLP, consent to the use of our report dated March 16, 2023, on the consolidated financial statements of Ballard Power Systems Inc. (the "Entity"), which comprise the consolidated statements of financial position as of December 31, 2022 and December 31, 2021, the related consolidated statements of loss and comprehensive income (loss), changes in equity and cash flows for each of the years in the two-year period ended December 31, 2022, and the related notes, and our report dated March 16, 2023 on the effectiveness of internal control over financial reporting as of December 31, 2022, which is included in the annual report on Form 40-F of the Entity for the fiscal year ended December 31, 2022.

We also consent to the incorporation by reference of such reports in the Registration Statements No. 333-225494 and No. 333-161807 on Form S-8 and No. 333-254584 on Form F-10 of Ballard Power Systems Inc.

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KPMG LLP

March 16, 2023
Vancouver, Canada

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