



Next Hydrogen Solutions Inc.
(previously BioHEP Technologies Ltd.)

Management's Discussion and Analysis

For the third quarter ended
September 30, 2023

Dated November 16, 2023

Management's Discussion and Analysis for the third quarter ended September 30, 2023

General Information

The following is Next Hydrogen Solutions Inc.'s management discussion and analysis dated November 16, 2023 ("MD&A"), which provides a comparative overview of the Company's performance for the three and nine month periods ended September 30, 2023 with the corresponding three and nine month periods ended September 30, 2022, and it reviews the Company's financial position as at September 30, 2023. Throughout this MD&A, the term "Company" or "Next Hydrogen" shall mean Next Hydrogen Solutions Inc. and all of its wholly-owned subsidiaries. This discussion should be read in conjunction with the Company's MD&A, audited financial statements and accompanying notes as at and for the year ended December 31, 2022 as well as the unaudited condensed interim consolidated financial statements of the Company for the third quarter ended September 30, 2023 ("interim financial statements").

The Company's functional and presentation currency is the Canadian dollar. All financial information presented has been rounded to the nearest dollar, except per share amounts and where otherwise indicated. The Company's interim financial statements for the third quarter ended September 30, 2023 were approved by its Board of Directors on November 16, 2023. Readers are cautioned that certain information included herein is forward-looking and based upon assumptions and anticipated results that are subject to uncertainties. Should one or more of these uncertainties materialize or should the underlying assumption prove incorrect, actual results may vary significantly from those expected. See "Forward Looking Statements" and "Risks and Uncertainties".

Unless otherwise indicated, the information in this report is dated as of November 16, 2023. Additional information relating to the Company is available on SEDAR+ at www.sedarplus.ca.

Operational Highlights

Management is proud to highlight a number of recent milestones that demonstrate significant recent progress:

- Next Hydrogen has met its energy efficiency targets cell performance of 1.90 V/cell at 1 A/cm² and 70°C for its new second generation "GEN2" water electrolyzer technology which exceeded the recently reported US Department of Energy ("DOE") technical targets status for energy efficiency. The GEN2 performance achievement has positioned the Company to being the industry leader in electrolysis cell performance.
- The Company has entered into a \$7.7M agreement for a project involving a specialized nuclear application. Under the agreement, Next Hydrogen will conduct design engineering (Phase 1) and subsequently provide the electrolyzer needed (Phase 2) for the project. A \$5M purchase order has been received for Phase 1, which is expected to take place during 2024, with a follow-on order of \$2.7M planned for Phase 2 with electrolyzer delivery expected to occur in 2025. This project will provide us with high growth potential.
- Next Hydrogen and Casale SA ("**Casale**"), have signed a memorandum of understanding to develop green ammonia and methanol systems that integrate Next Hydrogen's electrolysis technology and products. Under this agreement, the companies will bring together their collective experience and capabilities to accelerate and scale-up green ammonia and methanol plants connected to renewable energy sources. This collaboration provides a compelling pathway to producing clean, zero-emission ammonia and methanol from green renewable energy power sources.

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- Next Hydrogen will be receiving advisory services and up to \$750,000 in research and development funding from the National Research Council of Canada Industrial Research Assistance Program ("NRCC IRAP") toward the development and demonstration of the Company's next generation products. This will further help the Company accelerate its product roadmap and its mission of driving large scale adoption of green hydrogen solutions to decarbonize the global economy.
- The Company has been awarded \$5.1 million from Sustainable Development Technology Canada ("SDTC") towards the development and demonstration of the Company's next generation electrolysis technology. The SDTC project, with a budget of over \$12 million will run to early 2025, resulting in the launch of a GEN2 product line with cost and performance improvements and a third generation larger-scale product line with further cost and performance improvements. With the launch of these products, Next Hydrogen will be well positioned to support the needs of its customers for both near-term market demonstrations and commercial large-scale green hydrogen systems. The payment for the first milestone was received in Q1 2023.
- Further, Next Hydrogen has secured five blue-chip industry partners and received letters of commitment totaling \$1.5M as a combination of cash and in-kind contributions towards its product development roadmap. These partners include end-users, suppliers and channel partners to ensure strong product-market fit and positions the company for high quality revenue generation opportunities.
- The Company was the recipient of the Innovation in Hydrogen Technology Award at the Canadian Hydrogen Convention in Edmonton, Alberta in April 2023. This is the largest hydrogen event in North America with over 1000 conference delegates.

Business Overview

Founded in 2007, Next Hydrogen's innovative water electrolysis technology, with patented cell architecture, is designed to efficiently convert intermittent renewable electric power sources into clean hydrogen on an infrastructure scale. The Company was co-founded by Dr. Jim Hinatsu (COO) and Dr. Michael Stemp (CTO) who are experts in water electrolysis. They previously led Research & Development and Intellectual Property development for Stuart Energy (acquired by Hydrogenics in 2004) and Hydrogenics (acquired by Cummins in 2019).

While some of the world's brightest minds with strong capital resources have been focused on improving cell materials and components, improvements to the cell design architecture have garnered very little attention and as a consequence the design has not changed in decades. Next Hydrogen's team, with a combined experience of over 100 years in water electrolysis, has dedicated more than a decade to revolutionizing the design architecture of the electrolyzer to optimize it for renewable energy integration. To date, it has been awarded 40 patents (more pending) across multiple jurisdictions. The break-through innovation in cell design architecture enables unprecedented operational flexibility to capture the entire output of intermittent renewable energy using significantly smaller or fewer units than a traditional electrolyzer solution. Next Hydrogen believes its unique design enables high current density operations, a superior dynamic response and inherent scalability, representing a strong technological advantage to reduce the cost of green hydrogen generation and decarbonize industrial processes, the transportation industry, and energy markets at scale.

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The advanced electrolyzer module design uses a new and fundamentally different approach to fluid flows in water electrolyzers. Fluid flows are maintained separately in each half-cell chamber or “slice” of the electrolyzer module, whereas conventional designs collect all the fluid flows in internal manifolds of the electrolyzer module, which are separated from the gas in external gas-liquid separators. Next Hydrogen's design can therefore handle much higher fluid flow rates, and much higher gas generation rates, which in turn enables our products to make more hydrogen economically, whenever low-cost electricity is available. The key enabling design features are incorporation of gas-liquid separators inside the electrolyzer module, and fluid flow passages that connect each gas production half-cell chamber directly to the gas-liquid separators.

Next Hydrogen's product is a large-scale hydrogen generator, which makes hydrogen at the user's site from common plant utilities - water and electricity. The hydrogen generator system uses water electrolysis to generate high-purity hydrogen on demand. The key component in the system is an innovative, patented electrolyzer module, which is combined with balance of plant equipment including power, controls, gas purification, closed-loop cooling and water treatment. The process typically works by first converting AC electricity to DC electricity, which powers the electrolyzer module. Inside the electrolyzer module, water is converted by the DC electricity to hydrogen and oxygen gases. Hydrogen typically is the product gas, and it is cleaned and sent to the user's process and/or hydrogen storage. The system is automatically controlled and operates with minimal oversight. It is packaged in sea containers for ease of shipping and installation and outdoor installation frees up valuable indoor floor space.

Next Hydrogen is at the early commercialization stage and has demonstrated that the development of the final product with expected functionality is possible. The Company initially demonstrated its prototype with Atomic Energy Canada Limited (“AECL”). At the time, AECL publicly stated “the team successfully demonstrated the continuous operation of the cell with the required quality of hydrogen stream from the electrolyzer in a liquid phase catalytic exchange system.” Following this, the Company sold a NH-60 test and evaluation electrolyzer system to Canadian Tire in 2014. In 2016 and 2019, Next Hydrogen entered into two additional sales agreements with Canadian Tire for an NH-300 electrolyzer system and an electrolyzer module. These systems will produce hydrogen to power fuel cell forklifts at Canadian Tire's distribution centres. These electrolyzers are yet to be commissioned.

Next Hydrogen intends to dedicate a significant portion of its capital to product development and commercialization. As such, its current product line is undergoing new performance upgrades from first to second generation to factor in latest innovations, which is to be followed by commissioning of the units and further improvements as needed. These iterations and refinements are a normal course of a product development journey and will be necessary to comprehensively prove out the five-times scale-up from NH-60, unique design features, lifetime performance, and to ensure a competitive and robust product offering for mass volume production. Looking further ahead and as part of the product development roadmap, management intends to pursue further scale-up of this design from the current size range for large scale green hydrogen production.

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Results of Operations

Financial Highlights

	3 months ended Sep 2023	3 months ended Sept 2022	9 months ended Sep 2023	9 months ended Sep 2022
Revenue	\$ 53,399	\$ 74,457	\$ 143,095	\$ 160,078
Expenses				
Cost of sales {includes \$488,869 and \$537,907 (2022 - \$13,774 and \$107,660) of inventory impairment / (inventory) for the 3 & 9 months, respectively}	597,972	66,949	674,255	210,797
Research and development	956,180	2,508,003	4,713,767	5,839,272
General and administrative	932,319	1,280,419	3,481,458	4,166,170
Marketing and sales	(8,801)	267,622	323,082	1,093,089
Loss before the following	(2,424,271)	(4,048,536)	(9,049,467)	(11,149,250)
Finance (income) costs, net	(89,305)	(144,238)	(379,255)	(164,616)
Net loss and comprehensive loss	\$ (2,334,966)	\$ (3,904,298)	\$ (8,670,212)	\$ (10,984,634)
Loss per share - basic	\$ (0.10)	\$ (0.17)	\$ (0.38)	\$ (0.48)
Loss per share - diluted	\$ (0.10)	\$ (0.17)	\$ (0.38)	\$ (0.48)

Revenue

As Next Hydrogen is in the early stage of commercialization, historical revenues pertain to service and consulting revenue, which is ancillary to its core operations. The Company recorded \$53,399 (2022 - \$74,457) in revenue for the three month period and \$143,095 (2022 - \$160,078) for the nine month period ended September 30, 2023.

As of September 30, 2023, the Company had \$3,771,641 in deferred revenue. \$1,000,000 of this amount is expected to be earned over the next twelve months, which was received in Q3 2023 as part of the \$7,700,000 agreement for a project involving a specialized nuclear application.

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Expenses

	3 months ended Sep 2023	3 months ended Sep 2022	9 months ended Sep 2023	9 months ended Sep 2022
Cost of sales	597,972	66,949	674,255	210,797
Research and development	956,180	2,508,003	4,713,767	5,839,272
General and administrative	932,319	1,280,419	3,481,458	4,166,170
Marketing and sales	(8,801)	267,622	323,082	1,093,089
	\$ 2,477,670	\$ 4,122,993	\$ 9,192,562	\$ 11,309,328

Cost of sales increased by \$531,023 or 793.2% for the three month period and by \$463,458 or 219.9% for the nine month period ended September 30, 2023 respectively compared to the same period in 2022. The increase in the cost of sales during the three month and nine month periods ended September 30, 2023 was due to the writedown of parts which belonged to our GEN1 design as we are transitioning into our GEN2 design.

Research and development expenses decreased by \$1,551,823 or 61.9% for the three month period and by \$1,125,505 or 19.3% for the nine month period ended September 30, 2023, compared to the same periods in 2022. The reduction within the nine month period was as a result of the STDC and IRAP income grant that were received within 2023 and which were used to offset some of the research and development expenses in 2023.

General and administrative expenses decreased by \$348,100 or 27.2% for the three month period and by \$684,712 or 16.4% within the nine month period ended September 30, 2023, compared to the same periods in 2022. While the decrease within these two periods were marginal, the decrease within the three months and nine months period were due to a reduction in administrative headcount and the resulting reduction in share based compensation expense.

Marketing and sales expenses decreased by \$276,423 or 103.3% for the three month period ended, and decreased by \$770,007 or 70.4% for the nine month period ended September 30, 2023 compared to the same periods in 2022, as we applied the IRAP grant against expenses and due to a reduction in headcount.

Finance (Income) Cost (Net)

Net finance income reduced by \$54,933 or 38.1% for the three month period and increased by \$214,639 or 130.4% for the nine month period ended September 30, 2023, compared to the same periods in 2022, due to the significant increase in interest rates in 2023, compared to the same periods in 2022 which was partially offset by a lower cash balance for the three month period and nine month period in 2023, resulting in reduction of net finance income.

Net Loss and Comprehensive Loss

Net loss and comprehensive loss decreased by \$1,569,332 or 40.2% for the three month period and \$2,314,422 or 21.1% for the nine month period ended September 30, 2023, compared to the same periods in 2022 which was primarily due to a significant increase in government grant offset available to reduce expenses in 2023.

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Summary of Quarterly Results

The following table sets out quarterly financial information for the Company's eight most recently completed quarters:

(in thousands)	Q3'23	Q2'23	Q1'23	Q4'22	Q3'22	Q2'22	Q1'22	Q4'21
Revenue	\$ 53	\$ 46	\$ 44	\$ 562	\$ 74	\$ 45	\$ 41	\$ 41
Loss from operations	(2,424)	(3,083)	(3,542)	(3,306)	(4,106)	(3,551)	(3,627)	(4,538)
Net loss and comprehensive loss	(2,335)	(2,940)	(3,395)	(3,158)	(3,961)	(3,514)	(3,645)	(4,565)
Loss per share - Basic	\$ (0.10)	\$ (0.13)	\$ (0.15)	\$ (0.14)	\$ (0.17)	\$ (0.15)	\$ (0.16)	\$ (0.23)
Loss per share - Diluted	\$ (0.10)	\$ (0.13)	\$ (0.15)	\$ (0.14)	\$ (0.17)	\$ (0.15)	\$ (0.16)	\$ (0.23)

Given the nascent nature of the industry and the value of individual unit sales, the sale of Next Hydrogen's electrolyzers could result in significant fluctuations in revenues over the first few years of operations, until the Company builds a robust sales pipeline.

Liquidity and Capital Resources

	September 2023	December 2022
Cash	\$ 11,891,569	\$ 22,084,721
Working capital ⁽¹⁾	17,072,438	24,770,605
Total assets	27,223,982	33,727,778
Debt ⁽²⁾	160,764	271,607
Shareholders' equity	\$ 15,376,646	\$ 23,905,742

⁽¹⁾ Working capital is defined as current assets minus current liabilities, excluding deferred revenue and provisions

⁽²⁾ Debt includes both current and long-term portions of bank indebtedness and long-term debt. Finance lease liability has been excluded as it pertains to the Company's head office and assembly facility lease.

Cash, working capital, total assets and shareholders' equity decreased during the nine month period ended September 30, 2023, in order to cover cash flows required for operating activities, equipment development and purchases, and to pay down debt.

Sustained positive cashflows are not expected over the next few years as the Company continues to focus on product development and commercializing new product lines while building out the necessary infrastructure to commercialize its business. Management forecasts that there is sufficient working capital to fund its operations over the next twelve months.

The following table sets out the Company's contractual obligations with respect to debt:

(in thousands)	Total	1 Year	2 Years	3 Years	4 Years	5 Years	After 5 Years
Bank indebtedness	\$ 60	\$ 60	\$ -	\$ -	\$ -	\$ -	\$ -
Finance lease liability	1,747	85	108	164	199	210	981
Long-term debt	\$ 100	\$ 62	\$ 38	\$ -	\$ -	\$ -	\$ -

As of November 16, 2023, the Company had 22,888,436 common shares, 2,921,626 stock options, and 135,288 deferred share units outstanding.

Forward-Looking Statements

Certain sections of this MD&A may contain “forward-looking statements” within the meaning of applicable securities legislation. All statements, other than statements of historical fact, made by the Company that address activities, events or developments that the Company expects or anticipates will or may occur in the future are forward-looking statements, including, but not limited to, statements preceded by, followed by or that include words such as “may”, “will”, “would”, “could”, “should”, “believes”, “estimates”, “projects”, “potential”, “expects”, “plans”, “intends”, “anticipates”, “targeted”, “continues”, “forecasts”, “designed”, “goal”, or the negative of those words or other similar or comparable words. Forward-looking statements may relate to the Company's future financial conditions, results of operations, plans, objectives, performance or business developments. Forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by the Company as of the date of such statements, are inherently subject to significant business, economic and competitive uncertainties and contingencies. Known and unknown factors could cause actual results to differ materially from those projected in the forward-looking statements.

There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Forward-looking statements are provided for the purpose of providing information about management's expectations and plans relating to the future. All of the forward-looking statements made in this MD&A are qualified by these cautionary statements and those made in our other filings with applicable securities regulators in Canada. The Company disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, or to explain any material difference between subsequent actual events and such forward-looking statements, except to the extent required by applicable law.

Critical Accounting Estimates

The preparation of condensed interim consolidated financial statements in accordance with IFRS requires management to make judgments that affect the application of accounting policies and the interpretation of accounting standards, and to make estimates and assumptions which affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported amounts of revenues and expenses. Management makes estimates based on specific facts or circumstances as well as past experiences. Management periodically reviews its estimates and underlying assumptions and as adjustments become necessary, they are reported in profit and loss in the period in which they become known. Due to the inherent uncertainty involved with making such estimates, actual results could differ from those reported.

A detailed description of the Company's critical accounting estimates can be found in the condensed interim consolidated financial statements.

Changes in Accounting Standards

IFRS 17 Insurance Contracts

On May 18, 2017, the IASB issued IFRS 17 Insurance Contracts. On June 25, 2020, the IASB issued amendments to IFRS 17 aimed at helping companies implement the Standard and to defer the effective date. IFRS 17 will replace IFRS 4 Insurance Contracts.

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On December 9, 2021, the IASB issued a narrow-scope amendment to the transition requirements in IFRS 17, providing insurers with an option aimed at improving the usefulness of information to investors on initial application of IFRS 17 by presenting comparative information about financial assets, using a classification overlay approach on a basis that is more consistent with how IFRS 9 will be applied in future reporting periods. The new standard and its amendments are effective for annual periods beginning on or after January 1, 2023.

The Company performed an assessment and determined this standard to have no effect on its condensed interim consolidated financial statements.

Definition of Accounting Estimates [Amendments to IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors ("IAS 8")]

In February 2021, the IASB issued amendments to IAS 8 to introduce a definition of "accounting estimates" and include other amendments to help entities distinguish changes in accounting estimates from changes in accounting policies. The amendments are effective for annual reporting periods beginning on or after January 1, 2023, with early adoption permitted. The amendments are to be applied prospectively.

The Company has adopted the amendment issued with no effect on the interim consolidated financial statements.

Disclosure of Accounting Policies (Amendments to IAS 1)

In February 2021, the IASB issued amendments to IAS 1 requiring an entity to disclose its material accounting policies, rather than its significant accounting policies. Additional amendments were made to explain how an entity can identify a material accounting policy. The amendments are effective for annual reporting periods beginning on or after January 1, 2023, with early adoption permitted.

The Company has considered this amendment and determined this standard to have no effect on its condensed interim consolidated financial statements.

Future Accounting Pronouncements

Classification of Liabilities as Current or Non-current [Amendments to IAS 1 Presentation of Financial Statements ("IAS 1")]

In January 2020, the IASB issued amendments to IAS 1 relating to the classification of liabilities as current or non-current. Specifically, the amendments clarify one of the criteria in IAS 1 for classifying a liability as non-current - that is, the requirement for an entity to have the right to defer settlement of the liability for at least 12 months after the reporting period. The amendments are effective for annual reporting periods beginning on or after January 1, 2024, with early adoption permitted. The amendments are to be applied retrospectively.

The Company will perform an assessment of this amendment on its consolidated financial statements prior to the effective date.

Lease Liability in a Sale and Leaseback (Amendments to IFRS 16 Leases)

On September 22, 2022, the IASB issued Lease Liability in a Sale and Leaseback (Amendments to IFRS 16). The amendments are effective for annual periods beginning on or after January 1, 2024. Early adoption is permitted.

The Company will perform an assessment of this amendment on its consolidated financial statements prior to the effective date.

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Risks and Uncertainties

Any investment in the securities of the Company is speculative due to the nature of its business and stage of development. There are a number of risk factors that could materially affect the Company's future operating results and could cause actual events to differ materially from those described in the forward-looking statements related to the Company. In addition to the usual risks associated with an investment in a business, investors should carefully consider the following risk factors and the risk factors set out in the Company's Filing Statement. If any of the noted risks actually occur, the business may be harmed and the financial condition and results of operations may suffer significantly. In that event, the trading price of the common shares could decline, and shareholders may lose all or part of their investment. Additional risks and uncertainties not presently known to us or that we currently consider immaterial also may impair our business and operations.

Capital Requirements

Next Hydrogen plans to focus on research and development while building out the necessary infrastructure to commercialize its business and will use its working capital to carry out such initiatives. Although we believe that we have sufficient liquidity to continue as a going concern for well beyond the next 12 months, the development of new hydrogen technologies may require substantial additional financing. Further expansion of Next Hydrogen's business may be dependent upon its ability to obtain financing through equity or debt, and there can be no assurance that it will be able to obtain adequate financing in the future or that the terms of such financing will be favourable. Failure to obtain such additional financing could result in the delay or indefinite postponement of further development of the Company's planned initiatives.

Operations

Next Hydrogen is subject to risks relating to the industry in which it operates, which include risks relating to the continuing development of the industry and risks relating to regulation. With respect to the continuing development of the renewable energy industry, Next Hydrogen is subject to the risk that their technology is relatively new and as a result, assumptions and estimates regarding the performance of their technology will be made without the benefit of a meaningful operating history and any operating history that does exist may not be maintained in the future. The projects undertaken by Next Hydrogen are generally capital intensive, require significant time to develop, are technically complex and are physically large. As a result, Next Hydrogen is subject to risks relating to completion of the projects, cost overruns, the availability of financing for such projects, and the ability to complete projects in geographically challenging locations. With respect to regulation, the industries in which Next Hydrogen operates are heavily regulated. As a result, Next Hydrogen is subject to risks relating to compliance with comprehensive regulations in multiple jurisdictions, and the risk that laws and regulatory requirements can change in a manner adverse to Next Hydrogen.

Development of the Clean Power Industry

Next Hydrogen operates in a new and rapidly evolving industry and accordingly is subject to risks relating to the development of that industry generally, and the technology underlying that industry. Accordingly, the business and future prospects of Next Hydrogen may be difficult to evaluate. Next Hydrogen cannot accurately predict the extent to which demand for products and services developed by Next Hydrogen will develop and/or increase, if at all. The success of Next Hydrogen also will depend on traditional business factors such as the ability to develop or market new products and the ability to properly execute corporate strategies. In addition, the regulation of issuers using such technologies or operating in such markets may undergo substantial change and the ultimate regulatory treatment of such technologies and markets is uncertain, which could affect the viability and expansion of such technologies and markets. In addition, because such technologies and markets may operate across many national boundaries, it is possible that they will be subject to widespread and inconsistent regulation. Any adverse developments that affect any of such technologies or markets could impact Next Hydrogen, thereby negatively impacting the value of Next Hydrogen's investments and/or the ability of Next Hydrogen to pay dividends or distributions.

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Commercialization

Next Hydrogen cannot guarantee that Next Hydrogen will be able to develop commercially viable electrolyzer products on the timetable Next Hydrogen anticipates, or at all. Selling its electrolyzer 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 Next Hydrogen's ability to reduce the costs of these products, since they are currently more expensive than products based on existing technologies and/or powered by fossil fuels, such as steam methane reformation. Next Hydrogen 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 its products. Next Hydrogen cannot guarantee that Next Hydrogen will be able to internally develop the technology necessary to sell its electrolyzer products on a commercially viable basis or that Next Hydrogen will be able to acquire or license the required technology from third parties.

In addition, before Next Hydrogen releases any products to market, Next Hydrogen subjects it to numerous field tests. These field tests may encounter problems and delays for a number of reasons, many of which are beyond Next Hydrogen's control. If these field tests reveal technical defects or reveal that its products do not meet performance goals, Next Hydrogen's anticipated timeline for selling its products on a commercially viable basis could be delayed, and potential purchasers may decline to purchase its products.

Market Demand

Next Hydrogen's products represent emerging markets, and Next Hydrogen does 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 Next Hydrogen's electrolyzers may be affected by many factors, some of which are beyond Next Hydrogen's control, including the emergence of newer, more competitive technologies and products, the cost of fuels used by Next Hydrogen's products, regulatory requirements, consumer perceptions of the safety of its 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 Next Hydrogen anticipates, Next Hydrogen may never achieve profitability. In addition, Next Hydrogen cannot guarantee that Next Hydrogen will continue to develop, manufacture or market its products if sales levels do not support the continuation of the product.

Warranty Claims and Product Performance

There is a risk that Next Hydrogen's warranty accrual estimates are not sufficient and Next Hydrogen may recognize additional expenses, including those related to litigation, as a result of warranty claims in excess of its current expectations. Such warranty claims may necessitate changes to its products or manufacturing processes up to and including a product recall, all of which could hurt the reputation of Next Hydrogen and its products, and may have an adverse impact on its financial performance and/or on future sales. While Next Hydrogen attempts 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 Next Hydrogen's reputation and the reputation of its products and may have an adverse impact on its financial performance and/or future sales.

New products may have different performance characteristics from previous products. In addition, Next Hydrogen has limited field experience with existing commercial products from which to make its warranty accrual estimates.

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Intellectual property

Failure to protect Next Hydrogen's existing intellectual property rights may result in the loss of its exclusivity regarding, or right to use, its technologies. If Next Hydrogen does not adequately ensure its freedom to use certain technology, Next Hydrogen 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. Next Hydrogen relies on patent, trade secret, trademark and copyright laws to protect its intellectual property. Some of its intellectual property is not covered by any patent or patent application, and the patents to which Next Hydrogen currently has rights expire between July 2028 and October 2034. Next Hydrogen's present or future-issued patents may not protect its technological leadership, and its patent portfolio may not continue to grow at the same rate as it has in the past. Moreover, Next Hydrogen's patent position is subject to complex factual and legal issues that may give rise to uncertainty as to the validity, scope and enforceability of a particular patent. Accordingly, there is no assurance that: (i) any of the patents owned by Next Hydrogen will not be invalidated, circumvented, challenged, rendered unenforceable or licensed to others; or (ii) any of its pending or future patent applications will be issued with the breadth of claim coverage sought by Next Hydrogen, 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.

Next Hydrogen also seeks to protect its proprietary intellectual property, including intellectual property that may not be patented or patentable, in part by confidentiality agreements and, if applicable, inventors' rights agreements with its strategic partners and employees. Next Hydrogen can provide no assurance that these agreements will not be breached, that Next Hydrogen 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.

Next Hydrogen may become subject to lawsuits in which it is alleged that Next Hydrogen has infringed the intellectual property rights of others or commence lawsuits against others who Next Hydrogen believes are infringing upon its rights. Next Hydrogen's involvement in intellectual property litigation could result in significant expense to Next Hydrogen, adversely affecting the development of sales of the challenged product or intellectual property and diverting the efforts of its technical and management personnel, whether or not such litigation is resolved in its favour.

Competitive Industry Environment

The renewable energy industry is highly competitive in all of its phases, both domestically and internationally. The Company's ability to develop hydrogen technology is based on its ability to secure talented personnel and secure supply of goods necessary to build electrolyzers, of which there is a limited supply. The Company may also encounter competition from other renewable energy companies in its efforts to hire experienced engineering and development professionals. Competition could adversely affect the Company's ability to attract necessary funding or acquire prospects for strategic partnerships in the future. Competition for services and equipment could result in delays if such services or equipment cannot be obtained in a timely manner due to inadequate availability, and could also cause scheduling difficulties and cost increases due to the need to coordinate the availability of services or equipment, any of which could materially increase project development or construction costs and result in project delays.

Product Safety Risk

Safety is the top priority as the Company. Management and all employees are strongly committed delivering fail-safe products to our customers. The product safety risks include the risk from major accidents and/or malfunctions in our products and/or insufficient service during operations and maintenance. The product safety risk is further increased due to Next Hydrogen's new and unique product line.

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Technology and Competition Risk

The green-energy sector, and hydrogen production in particular, is witnessing significant development. This not only results in increased competition, but also increased activity in research and development across the hydrogen industry. There is inherent risk that some of the technology developed by Next Hydrogen becomes obsolete. As the world seeks to transition into renewable energy sources, there is a degree of uncertainty that green hydrogen emerges as the preferred technology, which poses a direct risk to Next Hydrogen's technology and how the Company seeks to outperform competition.

Expansion Risk

The pressures faced by Next Hydrogen to expand its facilities, staff and operations may place high demands on the Company's overhead, technical, financial, and other resources. The Company is currently relatively lean and there is a degree of risk associated with the Company's ability to build a capable organization at a speed that is required to meet the demand by its customers or potential customers. Next Hydrogen's failure to manage its growth effectively or to manage its expansion strategy in a timely manner may significantly harm its ability to achieve profitability.

Third Party Dependence Risk

The Company is involved in electrolyzer and hydrogen fueling manufacturing, and therefore relies on external subcontractors and suppliers for goods and services. This operating model poses a risk to Next Hydrogen's goodwill and branding, as suppliers may fail to meet environmental, human rights, labor, and product quality standards. Next Hydrogen aims to limit risk through dual sourcing of critical components and prefers suppliers with local legislation compliance. However, if Next Hydrogen fails to maintain relationships with its suppliers or faces supply disruptions, it may experience delays in manufacturing, higher costs, order cancellations, customer claims, and loss of market share. Next Hydrogen is working on strategies such as dual supply chains and facilitating increasing volumes from key sub-suppliers to reduce sourcing risk and make its supply chain more robust.

Project Risk

Next Hydrogen's participation in large commercial projects exposes them to risks such as delays and cost overruns due to various factors including delivery delays or shortages of key equipment, design problems, labor disputes, safety hazards, disputes with suppliers, changes in customer specifications, adverse weather conditions, and regulatory approvals or permits delays. Failure to complete a commercial project on time may result in contract delays, renegotiation, or cancellation, and can negatively impact Next Hydrogen's reputation and customer relationships. Next Hydrogen may also face contractual penalties for not completing the project on time, which could adversely affect their business, financial condition, and results of operations.

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Key Personnel Risk

Next Hydrogen's development will depend on the efforts of key management and other key personnel. Loss of any of these people, particularly to competitors, could have a material adverse effect on Next Hydrogen's business. Further, with respect to future development of Next Hydrogen's projects, it may become necessary to attract both international and local personnel for such development. The marketplace for key skilled personnel is becoming more competitive, which means the cost of hiring, training and retaining such personnel may increase. Factors outside Next Hydrogen's control, including competition for human capital and the high level of technical expertise and experience required to execute this development, will affect Next Hydrogen's ability to employ the specific personnel required. Due to the relatively small size of Next Hydrogen, the failure to retain or attract a sufficient number of key skilled personnel could have a material adverse effect on Next Hydrogen's business, results of future operations and financial condition.

Customer Risk

Next Hydrogen's growth and revenue generation depend heavily on their ability to acquire new customers and maintain relationships with existing customers. However, there is no guarantee that Next Hydrogen will be successful in securing new customers or maintaining existing customer relationships in the future. Additionally, some of Next Hydrogen's existing and potential customers are also planning significant growth, and if these customers fail to succeed in their business plans or fulfill contracts with Next Hydrogen, it may adversely impact Next Hydrogen's sales and revenues.

Adverse Publicity and Product Liability Risk

Next Hydrogen's products could potentially result in product liability claims due to malfunctions, defects, improper installation or other causes, which could result in adverse publicity and significant monetary damages. The successful assertion of such claims could have a significant negative impact on Next Hydrogen's business, prospects, financial results, and operations. As of the date of these financial statements, Next Hydrogen is not aware of any current or pending product liability claims against the Company.

Market Development Risk

Next Hydrogen's revenues may be significantly harmed if significant markets for fueling products, other hydrogen energy products, or renewable energy as a major source for hydrogen production do not develop or develop more slowly than anticipated. This could result in Next Hydrogen being unable to recover the expenditures it has incurred and expects to incur in the development of its products.

Regulatory Risk

Next Hydrogen's operations are subject to numerous environmental requirements, including laws and regulations related to air pollution emissions, wastewater discharges, waste management, and hazardous materials handling. Compliance with these requirements can be costly and may increase over time. Breaches of allowed emission limits granted by various authorities could result in temporary production halts, fines, and corrective measures, which may have a significant effect on Next Hydrogen's operations.

Next Hydrogen's fuel cell and hydrogen industry is currently not subject to industry-specific government regulations in certain jurisdictions, but the company expects to encounter such regulations in the future, which may impact its development and growth. Changes in environmental policies or government subsidies could also adversely affect Next Hydrogen's business, as it depends substantially on government subsidies in its research and development phase. Political developments or judicial review of government financial support could result in the discontinuation or reduction of subsidies, leading to lower profitability and adverse effects on Next Hydrogen's business, financial condition, and results of operations.

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Climate Related Risks

Next Hydrogen recognizes that while climate change is a major trend, the anticipated role of green hydrogen in mitigating climate change could change due to geopolitical factors shaping climate policies. Next Hydrogen does not expect to be significantly impacted by potential carbon taxes or restrictions on carbon-intensive assets, as it does not consume products from conflict areas and has limited consumption of rare materials.

Reputation Risk

Next Hydrogen acknowledges the significance of maintaining a strong brand in the growing green hydrogen industry. Reputational risk for Next Hydrogen includes potential damage to brand value resulting in lost opportunities, challenges in talent recruitment and retention leading to technology development disruptions and customer experience issues, and difficulties in attracting investors due to a damaged reputation that could impact the Company's ongoing operations.

Physical Risk

Next Hydrogen's manufacturing facilities are not situated in environments that are excessively exposed to physical risks, including sustained long-term shifts in climate patterns. However, Next Hydrogen's delivered solutions depend on uninterrupted access to water and electricity, and shortages of these resources could potentially impact the performance of their products.