



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

Management's Discussion and Analysis

For the third quarter ended
September 30, 2022

Dated November 8, 2022

Management's Discussion and Analysis for the third quarter ended September 30, 2022

General Information

The following is Next Hydrogen Solutions Inc.'s management discussion and analysis dated November 8, 2022 ("MD&A"), which provides a comparative overview of the Company's performance for the three and nine month periods ended September 30, 2022 with the corresponding three and nine month periods ended September 30, 2021, and reviews the Company's financial position as at September 30, 2022. 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, 2021 as well as the unaudited condensed interim consolidated financial statements of the Company for the third quarter ended September 30, 2022 ("interim financial statements").

The interim financial statements of the Company and extracts from these interim financial statements contained in this MD&A were prepared in accordance with IAS 34, Interim Financial Reporting, and do not include all of the information required for annual 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, 2022 were approved by its Board of Directors on November 8, 2022. 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 8, 2022. Additional information relating to the Company is available on SEDAR at www.sedar.com.

Operational Highlights

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

- Next Hydrogen successfully completed the build of a proof of concept electrolyzer using its unique design for Hyundai Motor Company. The pilot test demonstrated the ability to operate at significantly higher current densities and temperature compared to traditional alkaline electrolyzers, which provides a pathway to cost-effective green hydrogen production. The unit was tested using the newly commissioned test infrastructure and delivered to Hyundai Motor Company. The Company is looking forward to next steps and potential commercial arrangements in the future.
- The Company commissioned its factory acceptance test equipment in October 2022, which allows Next Hydrogen to test commercial size systems prior to field demonstrations. This builds on the capability provided by bench scale and pilot scale test stands commissioned during Q2 and Q3. The Company commenced producing hydrogen from its systems in April 2022 and has now progressed to 24/7 operation of its assets in its facility. The addition of these test stands significantly accelerates the Company's ability to deliver reliable and innovative electrolyzers to its customers.
- Next Hydrogen was ranked first amongst publicly-traded companies as the fastest-growing sustainable company in Canada by Corporate Knights, a Canadian media and research company committed to advancing a sustainable economy.

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- The Company signed a memorandum of understanding with Black & Veatch, a global engineering, procurement, consulting and construction company, to develop a complete, large-scale, and integrated multi-megawatt green hydrogen solution and identify areas of deeper collaboration and specific global opportunities. Next Hydrogen's unique hydrogen technology expertise and Black & Veatch's vast customer network and engineering leadership will offer an integrated hydrogen solution to clients worldwide.
- Next Hydrogen joined a coalition of 40 partners that will work together, through the New York State Energy Research and Development Authority, to become one of at least four regional clean hydrogen hubs designated through the US federal Clean Hydrogen Hubs program included in the federal 2021 bipartisan Infrastructure Investment and Jobs Act to advance a vision that enables a long-term sustainable clean hydrogen industry in the US Northeast. The coalition will be competitively positioned to advance a vision that enables a long-term sustainable clean hydrogen industry in the Northeast region and to develop a proposal in response to the United States Department of Energy Funding Opportunity Announcement with \$8 billion in funding available.
- The Company successfully upgraded to the highest market tier of OTC Markets, OTCQX under the symbol "NXHSF".

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 39 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.

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.

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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. Canadian Tire subsequently purchased two NH-300 electrolyzer systems (First Article). These systems will produce hydrogen to power fuel cell forklifts at Canadian Tire's distribution centres.

Next Hydrogen intends to dedicate a significant portion of its recent capital raise to product development and commercialization. As such, its current product line is undergoing new performance upgrades 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 2022	3 months ended Sep 2021	9 months ended Sep 2022	9 months ended Sep 2021
Revenue	\$ 74,457	77,397	160,078	\$ 136,520
Direct Costs	53,175	29,505	103,137	57,572
Gross margin	21,282	47,892	56,941	78,948
Expenses				
Research and development	2,508,003	1,863,822	5,839,272	4,144,516
General and administrative	1,280,419	1,323,350	4,166,170	3,199,427
Marketing and sales	267,622	454,167	1,093,089	1,211,063
Provisions	13,774	179,316	107,660	3,739,911
Loss from operations	(4,048,536)	(3,772,763)	(11,149,250)	(12,215,969)
Finance costs, net	(144,238)	26,214	(164,616)	238,955
Transaction costs	-	24,617	-	7,988,025
Net loss and comprehensive loss	\$ (3,904,298)	(3,823,594)	(10,984,634)	\$(20,442,949)
Loss per share - basic	\$ (0.17)	(0.17)	(0.48)	\$ (1.11)
Loss per share - diluted	\$ (0.17)	(0.17)	(0.48)	\$ (1.11)

The following table provides a reconciliation of IFRS loss from operations to non-IFRS Adjusted EBITDA:

Loss from operations	\$ (4,048,536)	(3,772,763)	(11,149,250)	\$ (12,215,969)
Share-based compensation	481,248	802,455	2,047,174	1,701,612
Depreciation and amortization	183,607	75,784	478,938	154,368
Provisions ⁽¹⁾	13,774	179,316	107,660	3,739,911
Adjusted EBITDA⁽²⁾	\$ (3,369,907)	(2,715,208)	(8,515,478)	\$ (6,620,078)

(1) Provisions have been added back as the expense is non-recurring and to allow for better comparability.

(2) Adjusted EBITDA is a non-IFRS financial measure and does not have a standardized meaning under IFRS. Refer to "Non-IFRS Financial Measures" and the above reconciliation to the most comparable IFRS financial measure.

Transaction costs incurred during the previous year reflect costs incurred by the Company as part of the process of listing its shares on the TSX Venture Exchange.

Revenue

As Next Hydrogen is in the early stage of commercialization, revenues pertain to service and consulting revenue, which is ancillary to its core operations. The Company recorded \$74,457 (2021 - \$77,397) in revenue for the three months ended, and \$160,078 (2021 - \$136,520) in revenue for the nine months ended September 30, 2022, 84% of which was service revenue acquired as part of the Company's acquisition of CleanFuel Systems Inc. in Q2 of the prior year.

As of September 30, 2022, the Company had \$3,156,091 (December 2021 - \$3,027,941) in deferred revenue, of which \$2,774,888 (December 2021 - \$2,704,792) is expected to be earned over the next twelve months.

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Operating Expenses

	3 months ended Sep 2022	3 months ended Sep 2021	9 months ended Sep 2022	9 months ended Sep 2021
Research and development	\$ 2,508,003	1,863,822	5,839,272	\$ 4,144,516
General and administrative	1,280,419	1,323,350	4,166,170	3,199,427
Marketing and sales	267,622	454,167	1,093,089	1,211,063
Provisions	13,774	179,316	107,660	3,739,911
	\$ 4,069,818	3,820,655	11,206,191	\$ 12,294,917

Research and development expenses increased by \$644,181 or 34.6% for the three month period and \$1,694,756 or 40.9% for the nine month period ended September 30, 2022, compared to the same periods in 2021, as the Company had increased headcount and accelerated development work on various projects. The Company was focused on implementing product upgrades to its current product line, commencing work on next generation units, and activities related to building out its test infrastructure, some of which were capitalized.

General and administrative expenses slightly decreased by \$42,931 or 3.2% for the three month period, and increased by \$966,743 or 30.2% for the nine month period ended September 30, 2022, compared to the same periods in 2021, as the Company significantly increased its management team, systems and processes in anticipation of commercialization, including the implementation of a new ERP system that will allow for significantly improved controls, automation and scale in the first half of 2022 and the second half of 2021. The Company's costs also increased to support improved corporate governance, controls and reporting required of a publicly traded company. Costs have since normalized in Q3 2022.

Marketing and sales expenses decreased by \$186,545 or 41.1% for the three month period and \$117,974 or 9.7% for the nine month period ended September 30, 2022, compared to the same periods in 2021, as the Company now has consolidated its product and business development efforts to support a more cohesive commercialization plan.

A provision expense of \$13,774 was recorded for the third quarter (\$107,660 for the nine month period) ended September 30, 2022, due to an increase in expected and probable future costs and upgrades exceeding expected revenue associated with three business contracts currently in place. Provisions exist when the expected cost of a contract exceeds the associated revenue and are typical in early-stage companies that are still in the development phase and have low manufacturing volumes.

Research and development, and general and administrative expenses increased for the nine month period relative to last year, as the Company had improved access to capital and could accelerate on its development strategy. However, costs have now normalized until the Company is ready for the next stage of commercialization.

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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)	Q3'22	Q2'22	Q1'22	Q4'21	Q3'21	Q2'21	Q1'21	Q4'20
Revenue	\$ 74	45	41	41	77	59	-	\$ -
Loss from operations	(4,049)	(3,445)	(3,655)	(4,538)	(3,773)	(6,536)	(1,908)	(1,673)
Net loss and comprehensive loss	(3,904)	(3,408)	(3,673)	(4,565)	(3,824)	14,407	(2,213)	(2,640)
Loss per share - Basic	\$ (0.17)	(0.15)	(0.16)	(0.20)	(0.17)	(0.85)	(0.14)	\$ (0.21)
Loss per share - Diluted	\$ (0.17)	(0.15)	(0.16)	(0.20)	(0.17)	(0.85)	(0.14)	\$ (0.21)

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. In addition, as the Company's access to capital improved early last year, the Company was able to develop its team and processes, resulting in an acceleration of costs during 2021. Costs are now expected to remain relatively flat until the Company is ready for the next stage of commercialization.

Liquidity and Capital Resources

	September 2022	December 2021
Cash and cash equivalents	\$ 25,834,547	\$ 39,197,357
Working capital ⁽¹⁾	28,958,466	41,234,520
Total assets	38,488,152	48,056,994
Debt ⁽²⁾	257,546	361,087
Shareholders' equity	\$ 28,855,226	\$ 37,792,686

⁽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 and cash equivalents, working capital, total assets and shareholders' equity decreased during the nine month period ended September 30, 2022, in order to fund operating activities, equipment development and purchases, and to pay down debt.

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 believes there is sufficient working capital to fund its operations over the next twelve months.

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As part of the RTO and related financing, the Company represented that \$24,570,000 of net proceeds would be spent over the following 12 months with the balance of \$25,975,000 to be spent in future periods. A comparison of the expected purposes of these funds, as disclosed in the Company's filing statement, versus actual spend to date is as follows:

	<u>(12 months) Expected</u>	<u>(12 months) Actual</u>
Fees and expenses payable in connection with the RTO	\$ 500,000	\$ 364,627
Research and development / Capital expenditures	13,000,000	9,999,163
Repayment of shareholder loan	5,070,000	5,105,256
General and administrative	4,000,000	4,910,891
Working capital	2,000,000	2,409,867
	<u>\$ 24,570,000</u>	<u>\$ 22,789,804</u>

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	1,842	67	85	108	164	199	1,219
Loan payable	\$ 198	97	63	38	-	-	\$ -

As of November 8, 2022, the Company had 22,888,436 common shares, 3,281,626 stock options and 135,288 deferred share units outstanding.

Non-IFRS Financial Measures

This MD&A includes the following financial measures that do not have any standardized meaning under IFRS and may not be comparable to similar measures employed by other companies:

"EBITDA" is calculated as net income (loss) before interest, taxes, depreciation and amortization.

"Adjusted EBITDA" adjusts EBITDA for share-based compensation, unrealized gain (loss) on foreign exchange, transaction costs and other unusual and non-recurring items.

Management believes that these financial measures are useful for investors and other readers, when used in conjunction with other IFRS financial measures, as they are measures used internally by management to evaluate performance. However, these financial measures are intended to provide additional information and should not be considered in isolation or as a substitute for measures of financial performance prepared in accordance with IFRS.

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

Onerous Contracts - Cost of Fulfilling a Contract (Amendments to IAS 37 Provisions, Contingent Liabilities and Contingent Assets ("IAS 37"))

In May 2020, the IASB issued amendments to IAS 37 regarding costs that should be included as the cost of fulfilling a contract when assessing whether a contract is onerous. Effective January 1, 2022, the Company adopted these amendments, with no impact on the consolidated financial statements.

Future Accounting Pronouncements

Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendments to IAS 12 Income Taxes)

On May 7, 2021, the IASB issued Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendments to IAS 12). The Company will perform an assessment of this amendment on its consolidated financial statements prior to the effective date.

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

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

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

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. However, 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.

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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.

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 them 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.

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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.

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.

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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.