Green Hydrogen at Work™

NASDAQ: PLUG

ESG Report 2023

Contents

This report contains statements that are aspirational or reflective of our views about our future performance that constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 that are subject to risks and uncertainties. You can identify forward-looking statements by words such as "believe," "expect," "anticipate," "intend," "plan," "aim," "will," "may," "should," "could," "would," "likely," "estimate," "predict," "potential," "continue," or other similar expressions. These forward-looking statements do not constitute guarantees of future performance. These forward-looking statements are based on current information and expectations and numerous assumptions that are subject to substantial risks, uncertainties and changes in circumstances that may cause actual results to differ materially from those expressed or implied by these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, our business strategy and plans and our objectives for future operations; regulatory changes and the availability and impact of credits and tax incentives; general business and economic conditions in our markets; competition in the general energy industry and downward pressure on pricing; potential disruptions to our operations and supply chain; our ability to increase efficiency of our products; our ability to market our products successfully in connection with the global energy transition and shifting attitudes around climate change; and the success of our ability to commercialize new products and services.

For a description of these factors and other risks and uncertainties that could affect our business, see the company's most recent annual report on Form 10-K filed with the Securities and Exchange Commission (SEC) on February 29, 2024, and subsequent periodic or current reports that the company may file from time to time with the SEC. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date on which they are made. We undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise. The company may determine to adjust any goals and targets or establish new ones to reflect changes in our business. Website references and hyperlinks throughout this document are provided for convenience only, and the content on the referenced third-party websites is not incorporated by reference into this report, nor does it constitute a part of this report. The company assumes no liability for the content contained on the referenced third-party references.

Letter from the CEO

Dear Stakeholders,

This is our fourth ESG report, and I am very excited about the advancements we have made in our environmental, social, and governance (ESG) journey in 2023. In the past year, Plug has made strides in advancing our ESG reporting.

As a leader in the green hydrogen economy, Plug knows that we play a crucial role in the larger energy industry. This ESG report helps us be accountable to all our stakeholders, the entire Plug community, and the public so that we can continue to grow ethically and responsibly. I am proud of the work Plug has done over the last year and committed to growing the green hydrogen economy.

In 2023, Plug demonstrated our leadership and dedication to advancing the hydrogen ecosystem. Here are some of the highlights:

- Progressed our hydrogen plant in Georgia, the largest proton exchange membrane (PEM) electrolyzer deployment operating in the U.S., which led to beginning production of liquid hydrogen at this plant in 2024.
- Produced over one hundred 1 megawatt (MW) PEM stacks in one month at our gigafactory in Rochester, NY.
- Recognized as the technology provider for significant hydrogen projects, including collaborations with Arcadia eFuels and Galp.
- Pioneered offshore hydrogen production with partners such as Lhyfe to design and deliver the first 1 MW electrolyzer unit in the North Sea for the HOPE (Hydrogen Offshore Production for Europe) project.
- Signed electrolyzer deals for green hydrogen projects in industries such as glass, aluminum, and green steel, showcasing our commitment to decarbonizing energy-intensive sectors.
- Installed a 1 MW electrolyzer at an Amazon fulfillment center, supporting over 225 hydrogen fuel cell-powered forklifts.
- Powered the historic flight of Universal Hydrogen airliner with Plug's ProGen fuel cells, a pioneering step in aviation applications.
- Sponsored research with the University of California, Irvine to study the societal value of hydrogen, including better understanding impactful applications for hydrogen and industry priorities for the near, mid, and long term.

These achievements highlight Plug's leadership in the hydrogen ecosystem and our commitment to creating a better world. Thank you to our customers, partners, suppliers, investors, and supporters for their trust and collaboration. Together, we are working to make the hydrogen economy a reality.

Sincerely,

Andrew Marsh

President and CEO

About Us

Plug is a trailblazer in turnkey green hydrogen solutions. Plug is building an end-to-end green hydrogen ecosystem from energy generation to production, storage, and delivery. Our products are designed to allow integration of hydrogen solutions into our customers' operations while strengthening their operational efficiency. Plug's journey toward success started with the pioneering of the first commercially viable markets for hydrogen fuel cells dedicated to material handling applications. Today, Plug's has superior experience operating fuel cells in the field, with over one billion hours of operating time, which has enabled continuous improvements to technology and customer operations.

Plug actively drives innovation in the hydrogen industry through in-house development and strategic partnerships, focusing on markets and applications across the hydrogen ecosystem. Plug's electrolyzer solutions present a unique value proposition. For example, we have technology that has been developed over nearly five decades, a gigafactory that produces electrolyzers on an industrial scale, and experience operating those electrolyzers in our own network of hydrogen plants. We also offer cryogenic solutions, which allow us to strategically position ourselves to produce and distribute clean hydrogen. This allows us to play a crucial role in helping customers globally in their efforts to decarbonize operations and achieve their operational goals.

We are a people-first company, committed to strengthening and supporting the talent, dedication, and determination of our employees. As of February 24, 2024, we had approximately 3,570 employees, of which approximately 120 are temporary employees. We are currently headquartered in Latham, NY, and we have a diversified hydrogen network with research laboratories, service and training centers, manufacturing facilities, and liquid hydrogen plants across North America, Europe, and Asia.

About This Report

ESG values go hand in hand with Plug's strategy to accelerate the use of green hydrogen to reduce reliance on fossil fuels as we transition to a low-carbon economy. Plug seeks to be a leader in the transition to a green economy, using hydrogen as a key fuel to reduce consumption of fossil fuels in hard-to-abate industries.

Plug has continued to make progress on its ESG reporting to improve comparability and consistency in reporting across countries and industries, while aligning with key disclosure frameworks and standards. As we build out critical hydrogen infrastructure globally, these values will guide the planning of new facilities. In a rapidly evolving ESG landscape, Plug is dedicated to establishing a systematic and integrated approach to address risks, drive value, and build organizational resilience.

We are proud to present our fourth annual ESG report, which covers our practices and initiatives during the 2023 calendar year. Our reporting is aligned with the Sustainability Accounting Standards Board standards for the Fuel Cells and Industrial Batteries industry and the Greenhouse Gas (GHG) Protocol and the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).

Our Approach

Plug's commitment to sustainability aligns with our objective to help businesses transition from fossil fuels by accelerating the adoption of green hydrogen to build a global net-zero economy. Our end-to-end hydrogen solutions not only empower our customers to decarbonize operations but also deliver value through efficiency enhancements. We do this by empowering our talented workforce, whose innovations across Plug's suite of hydrogen solutions ensure the global accessibility of our products to businesses of all sizes.

Sustainability is woven into the fabric of our products, core values, and the commitment of our employees. Plug recognizes its role in the transition away from fossil fuels and mitigating the impact of climate change. We remain mindful of the need for a circular business model that efficiently optimizes Earth's natural resources, reduces environmental footprint and trims operational waste. Our research and development (R&D) teams continue to work to lower precious metal usage in our products. Our manufacturing teams forge partnerships with leading recycling firms and university research teams to enhance recycling and remanufacturing initiatives in preparation for the growth of our operations.

Governments worldwide are adopting policies to support decarbonization, aligning with the vision of a net zero world by 2050. We believe our sustainable solutions in transportation (aviation and logistics), energy, power, industrial processes, material handling, and data centers are poised to play a pivotal role in pursuing this vision. Beyond addressing the urgent threat of climate change, we believe that the energy transition to a green economy presents economic opportunities for itself and the broader industry, which in turn will support job creation, enhance energy security, and foster global economic growth.

Our ESG efforts at Plug are led by our VP of Investor Relations with the support of multiple teams across the company who contribute the necessary information for this report. Our Corporate Governance and Nominating Committee of the Board of Directors (the Board of Directors or Board) provides oversight for the company's ESG program and oversees the management of our climate risks and opportunities.

In 2023, Plug completed an initial Scope 3 GHG emissions inventory, concentrating on identifying relevant disclosure categories. This involved building internal capacity for data collection and aligning with relevant emission factors. This effort continues Plug's progress on reporting relevant emissions data to stakeholders. For information about our company's Scope 1 and Scope 2 GHG emissions, see "Environment – Greenhouse Gas Emissions, Electricity Usage, and Water Consumption" below.

Our Commitments

Plug is strategically working towards achieving a set of crucial objectives by embedding ESG values into our business model. We look to achieve reduced costs, improve worker's productivity, and mitigate potential risks and enhance value creation, while keeping in focus the best parameters to measure our sustainability goals: People, Planet and Profit. Now more than ever, our customers and stakeholders are focused on the carbon footprint of their operations as well as the footprint of their suppliers.

This has been a driving force in the shift toward clean energy, electrification, and zero-carbon fuels. At Plug, we strive to construct a sustainable green hydrogen economy, which goes beyond reducing carbon footprints. It involves boosting productivity and improving operational efficiency. Our employees, customers, community partners, suppliers, business collaborators, and investors all contribute to this effort. Our commitment to the environment extends beyond the operational performance of our products and represents our commitment to the world as a steward leading a green energy revolution to replace fossil fuels with hydrogen and decarbonize the economy.

Our PEM Technology and Innovation

Plug's hydrogen fuel cells (HFCs) and hydrogen electrolyzers employ PEM technology to generate power and hydrogen, which are able to displace batteries and internal combustion engines and supplement existing energy supplies. Our hydrogen fuel cell is a clean energy power generator that combines hydrogen and oxygen to produce electricity with water and heat as by-products.

Simply put, HFCs can be used to power anything from commercial vehicles to drones and data centers by substituting batteries or a conventional internal combustion engine with our fuel cell. Plug's fuel cells are designed for today's and tomorrow's supply chain and logistics applications, on-road electric vehicles, stationary power markets, and more.

Plug's electrolyzers generate clean hydrogen by splitting water into hydrogen and oxygen, a process called water electrolysis. Electrolysis is the exact opposite of the fuel cell process with water and electricity as inputs and hydrogen and oxygen as the outputs. We are proud to continue our R&D efforts to increase efficiency in our PEM fuel cells and electrolyzers, reduce the use of precious metals and continue improving capital costs and lowering environmental impacts.

Plug aims to create positive disruptions in the business landscape. Through our technological advancements, we aim to facilitate the transition to a green hydrogen economy, providing turnkey solutions that enhance productivity while reducing emissions in challenging-to-decarbonize sectors. Our objective is to displace the use of diesel and other fossil fuels across various sectors, including power, mobility, and industrial applications.

Plug tracks operational efficiency across our fuel cell products, focusing on identifying and addressing critical areas for improvement in energy efficiency and power output. By prioritizing operational efficiency, we aim to lower the operating costs of hydrogen fuel cells, which aligns with our environmental goals and can contribute to the accelerated adoption of hydrogen products.

Our commitment to ESG efforts will help drive innovation and accelerate the adoption of clean energy technologies. We intend to establish a groundbreaking green hydrogen network. This ambitious endeavor is of paramount importance to our company, customers, and communities, as we collaboratively strive to reduce – and eventually eliminate – carbon emissions.

Governance - Board of Directors

Plug's business is conducted under the oversight of our Board of Directors . The primary responsibility of the Board is to oversee and review senior management's business and operations performance in order to advance the long-term interests of the company and its stockholders. The number of directors of the company is currently fixed at nine and the Board currently consists of nine members. The Board is divided into three classes with three directors in Class I, three directors in Class II, and three directors in Class III. Directors in Classes I, II, and III serve for three-year terms with one class of directors being elected by the company's stockholders at each Annual Meeting of Stockholders.

In 2023, Patrick Joggerst and Mark J. Bonney joined the Board. They bring leadership in key areas, such as mergers and acquisitions strategy, financial planning and analysis, global financial operations, and compliance. Mr. Joggerst became a member of Plug's Compensation Committee and Corporate Governance and Nominating Committee in August 2023. Mr. Bonney became a member of Plug's Regulatory Affairs Committee in August 2023 and now serves as the chair of Plug's Audit Committee.

Plug recognizes and values inclusive leadership. Increasing the diversity of our governing bodies, senior leadership team, and workforce is one of Plug's top priorities. Currently, four of our nine directors self-identify as female, an under-represented minority, or LGBTQ+. The positions of Chief Executive Officer (CEO) and Chairman of the Board (the Chairman of the Board or Chairman) are currently separated, with Andrew J. Marsh serving as our CEO since 2008 and George C. McNamee serving as Chairman since 1997.

Separating these positions allows our CEO to set the strategic direction of the company and focus on the company's day-to-day business operations, while allowing the Chairman to lead the Board in fulfilling its oversight role of management and risk management practices, approving the agenda for Board meetings and presiding over Board meetings and over the meetings of our independent directors in executive sessions.

While our bylaws and corporate governance guidelines do not require that our Chairman and CEO positions be separate, the Board believes that our current leadership structure is appropriate because it provides an effective balance between strategy development and independent leadership and management oversight.

Our Board annually reviews its leadership structure to determine whether it continues to best serve the company and its stockholders. We will notify our stockholders if the Chairman and CEO positions are combined promptly upon the Board's decision.

Committees of Board of Directors

The Board has established five standing committees to exercise oversight and provide guidance related to risks within the purview of each:

- **The Audit Committee** oversees risks related to accounting matters, financial reporting, cybersecurity, and legal and regulatory compliance, oversees the accounting and financial reporting processes and audits of the financial statements; and has responsibility for evaluation and oversight of qualifications, independence, and performance of the independent auditors.

- **The Compensation Committee** oversees risks related to compensation matters, evaluates compensation policies, plans, and programs. It also has responsibility for overseeing the annual evaluation of all officers of the company other than the CEO and, at its discretion, other members of senior management.

- **The Corporate Governance and Nominating Committee** oversees risks related to management and Board succession planning, maintains through annual review and reassessment the Corporate Governance Guidelines, evaluates the effectiveness of the Board and its committees, and has primary oversight responsibility for our ESG program as outlined in the committee's charter.

- **The Regulatory Affairs Committee** oversees risks related to the regulatory scheme applicable to our industry.

- **The Merger & Acquisition/Strategy Committee** oversees strategic transactions, opportunities for growth, and the risks related thereto.

The Board and all committees regularly engage with management on major risk exposures, their potential impact on the company, and the steps we take to manage them. The Chief Financial Officer (CFO) and the General Counsel report to the Board regarding ongoing risk management activities at the quarterly Board meetings and may submit additional reports, as needed. Additionally, risk management is a standing agenda item for the quarterly Audit Committee meetings. For additional information on our Board of Directors and company governance, please refer to the Investor Relations section of our website: https://www.ir.plugpower.com/overview/default.aspx.

Our governance documents, Board committee charters, and Code of Business Conduct and Ethics (Code of Conduct) can be found here: https://www.ir.plugpower.com/governance-/governance-documents/default.aspx.

Cultural Competencies and Code of Conduct

Plug is committed to being a company of exceptional character and values, one that places people at the forefront. Employees at Plug are dedicated to spearheading the transformation towards a green hydrogen economy. We are driven to offer seamless end-to-end fuel cell and hydrogen solutions, catering to the needs of every customer, regardless of the market landscape.

The Code of Conduct is expected to be upheld by non-employee members of the Board of Directors, as well as contractors, vendors, suppliers, consultants, and other parties doing business with Plug. It is the responsibility of all members of the organization to remain familiar with the content of the Code of Conduct, which we most recently updated in 2023, and to act in a manner compliant with the Code of Conduct.

Values

Plug is committed to a people-first culture driven by these values:

Innovate

Create new ideas, approaches, and technologies that change the world. Be insatiably curious and confident. Learn and adapt quickly. Constantly strive to exceed expectations.

Communicate

Listen and seek to understand. Hear inspiration and seek expertise from across the globe. Communicate openly and honestly; be transparent.

Respect

Respect each other and individual unique experiences and expertise. Treat everyone with dignity, compassion, and professionalism.

True

Act with integrity. Be helpful. Do the right thing.

Collaborate

Be inclusive and involve the right people. Let go where appropriate and trust your team members to do their part.

Humble but Gutsy

Embrace new opportunities with a fearless, action-oriented perspective. Learn and iterate.

Our Strategies - Green Hydrogen

In 2023, Plug continued to develop our vertically integrated hydrogen offerings and contribute to growing the hydrogen economy. Our vertical integration strategy includes hydrogen generation, transportation, storage, and fuel cell power for a growing number of applications to make green hydrogen easy and economical. In 2023, we began commissioning of our liquid hydrogen plant using PEM electrolyzers in Georgia. The commissioning of our Georgia plant has given us insight into electric infrastructure and balance-of-plant equipment. We remain focused on driving improvements in plant design and reductions in capital costs as we advance in our capacity buildout. We believe our engineering and design expertise is a key competitive advantage when selling electrolyzer systems and partnering with global industrial manufacturers in their quest to decarbonize with green hydrogen.

We expect the cost reduction of green hydrogen production, propelled by enhanced modularity, advancements in electrolyzer technology and expansion of the hydrogen network, to be a pivotal initiative for Plug and the broader industry. An important next step in scaling hydrogen production involves scaling plants to one gigawatt (GW) or more, coupled with midstream integration to mitigate transport costs. This roadmap for cost reduction in green hydrogen generation not only facilitates a substantial reduction in the global carbon footprint by displacing fossil fuels, but also fosters energy independence, reducing reliance on countries dependent on foreign-supplied fossil fuels.

Policies and regulations play a pivotal role in advancing green hydrogen adoption. Notable recent developments include the draft regulations for the Section 45V Clean Hydrogen Production Tax Credit (PTC) enacted under the Inflation Reduction Act (IRA). In addition, the U.S. Department of Energy recently announced that seven regional clean hydrogen hubs would receive $7 billion in funding to accelerate the U.S. market for low-cost, clean hydrogen. Plug is connected to all seven hubs, further underscoring the company's significant role in shaping the hydrogen economy in the United States. On the global stage, the EU Renewable Energy Directive (RED) mandates the use of renewable hydrogen across various sectors, setting, for instance, ambitious targets of 42% by 2030 and 60% by 2035 for the industry. This directive, coupled with the Net Zero Industry Act and Hydrogen Bank pilot auctions, contributes to substantial government objectives within the EU to expedite the widespread adoption of hydrogen. Additionally, the Alternative Fuel Infrastructures Regulation entered into force in April 2024 as part of the EU's "Fit for 55" package, setting mandatory deployment targets for hydrogen refueling stations serving both cars and lorries throughout the EU.

While hydrogen is a low-carbon energy source, its transportation via conventional internal combustion engine trucks contributes to greenhouse gas emissions. Plug is seeking to explore alternatives that would allow us to reduce and ultimately eliminate these emissions, particularly in the transportation of hydrogen. Plug's products offer a compelling value proposition to our customers and the environment, providing emissions improvements, enhanced reliability, improved efficiency, scalability, and lower operational costs. Hydrogen fuel cells generate only heat and water as byproducts, eliminating the handling costs associated with toxic materials such as battery acid or diesel fuel. Our technology has demonstrated resilience in challenging conditions, including extreme temperatures as low as -40 degrees Celsius and severe weather such as hurricanes, deserts, and winter storms. The modularity of our products enhances reliability and serviceability at scale, saving costs compared to batteries and internal combustion generators.

Plug assesses its strategy annually to identify and articulate strategic goals and targets in preparation for the annual planning and budgeting process. We also hold the annual Plug Symposium, which is a public discussion of key accomplishments and strategic direction across our business lines.

Product and Turnkey Solutions

Green Hydrogen Production through Electrolysis
Plug electrolyzers use PEM technology-based water electrolysis that can be paired with renewable and intermittent sources of energy such as solar, wind, and hydroelectric power to produce green hydrogen for customers. Large markets for green hydrogen include companies producing glass, aluminum, steel, fertilizer, oil and gas, chemicals such as ammonia and methanol, fuel for fuel cell-powered vehicles such as forklifts, buses and trucks, and power generation.

Leveraging expertise from acquisitions of the Frames Holding B.V. Group and Giner ELX Inc., Plug has commercialized several product solutions around our PEM electrolyzer: a containerized 2 TPD system that is able to produce gaseous hydrogen at customer sites, and a 4.25 TPD system for use as a modular building block for larger-scale plants.

Hydrogen Liquefaction
Plug liquifies hydrogen for transportation at atmospheric pressure and temperatures below -400OF resulting in extremely high efficiency. This technology is crucial to allow last-mile delivery of zero-carbon hydrogen molecules to end users to decarbonize their operations.

Through the acquisition of Joule Processing LLC, Plug has the core competency to internally source liquefiers with industry-leading efficiency. Plug is currently offering 15 and 30 TPD liquefier systems to customers.

Hydrogen Transportation
Plug designs and manufactures cryogenic trailers and mobile storage equipment for hydrogen and other markets. This enables efficient long-distance transportation of liquid and gaseous hydrogen to meet customer needs. Plug's cryogenic trailers have some of the highest payloads in the industry for hydrogen delivery.

Hydrogen Compression and Storage
Plug's hydrogen compression and storage system is composed of bulk liquid storage, compressors and liquid pumps, and gaseous storage tubes —enabling onsite storage at customer locations for a variety of fuel cell applications.

Hydrogen Refueling Stations for Dispensing
Plug's hydrogen dispenser systems are available for mobility and material handling applications. The dispenser systems include a user interface system and state-of-the-art safety systems. Plug has more than 250 hydrogen refueling stations addressing a variety of material handling and mobility requirements.

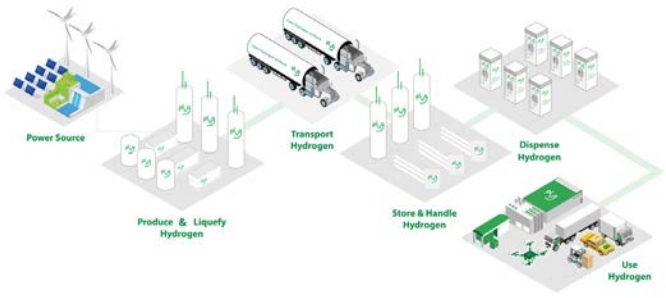
Hydrogen Fuel Cells
Plug develops and manufactures PEM-based fuel cells that power forklifts, fork-trucks, and Class 6 through Class 8 trucks, and serve as backup or primary generators at a variety of centers across customer industries.

We provide green hydrogen solutions to replace batteries in electric material handling vehicles and industrial trucks for some of the world's largest distribution and manufacturing businesses including Amazon, Walmart, Home Depot, and Lowe's.

We focus our efforts on industrial mobility applications, including electric forklifts and electric industrial vehicles, at multi-shift high-volume manufacturing and high-throughput distribution sites where we believe our products and services provide a unique combination of productivity, flexibility, and environmental benefits. Additionally, we manufacture and sell fuel cell products to replace diesel generators in stationary backup power applications for data centers, telecommunications, transportation, and utility customers. Fuel cells are also being used now to provide power for electric vehicle charging stations.

Other Plug services include our ongoing data-based maintenance and on-site service program for material handling fuel cells, mobility and stationary fuel cells, hydrogen compression, storage, and dispensing systems.

In addition to these products and services, there are opportunities for others to capitalize on the green hydrogen economy's growth. New market applications such as green hydrogen commercial fleet vehicles, stationary power, and aerospace are emerging to disrupt diesel and fossil fuel-run industries. Class 3 to Class 8 commercial fleet vehicles for last, middle mile, and long-haul journeys are being built for zero-emissions hydrogen use cases. We are excited about what the future holds for our innovation here at Plug and will continue to hire the best talent to develop these sustainable solutions.



Risk Management

Enterprise Risk Management
Plug conducts an enterprise risk assessment as part of the Enterprise Risk Management program every year. This process is comprehensive and includes both an inside-out and outside-in identification of risks, as well as identifying key threats, existing mitigations, and future action items. The results of this risk assessment are reported to the Board of Directors.

Our Board of Directors plays a central role in overseeing and evaluating risk. While it is management's responsibility to identify and manage our exposure to risk on an ongoing, day-to-day basis in accordance with the Board's Delegation of Authority Policy, the Board routinely discusses these risks with management and actively oversees our risk-management procedures and protocols. The Board regularly receives reports from senior management on areas of material risk to the company, including operational, financial, legal, regulatory, strategic, and cybersecurity and other information security risks, as well as information regarding ongoing risk management activities.

Such reports review long-term and short-term, internal and external risks facing the company and periodically involve the support of outside advisors, who may assist the Board and management with identifying potential risks or threats to the company or its stockholders. Risk management is also a standing agenda item for the regularly scheduled, quarterly Audit Committee meetings. As appropriate or necessary, senior management may report to the Board or its committees on risk management activities more frequently and, depending on the immediacy or severity of the risk, may implement additional controls or procedures. The company also periodically engages outside advisors who specifically report to the Board regarding enterprise risk management.

Senior management has mechanisms supporting formalized governance processes to identify and manage Plug's exposure to risk on an ongoing basis, including weekly and monthly meetings to discuss long-term and short-term internal and external risks facing the company, including financial results, growth targets, and other key performance indicators, as well as discuss strategy and gain consensus for key decisions. Senior management regularly reviews the status of projects, including timeline and cost for expansion projects and new products, and monitors and tracks on an ongoing basis failure rates, vulnerabilities, and incidents via its Security Operations Center (SOC).

Environmental Health and Safety Management System

Plug is committed to conducting business in a manner that protects its people, the communities in which we work and live, and our environment. We are committed to:

- Providing a healthy and safe workplace
- Minimizing effects on our environment through operational efficiency and productivity innovations
- Complying with environmental, health and safety (EHS) laws, regulations and other requirements

Our EHS Management System helps identify, manage and address EHS risks, assess our compliance with applicable EHS regulations and our internal policies, and establish corresponding action plans. Our EHS Management System is organized into programs and include Legal Compliance & Risk Identification, Safety & Health Management and Environmental Management. Our EHS Management System helps ensure program and reporting consistency at all of our sites and we assess our sites against the program requirements as part of our ongoing controls.

Climate Risk Assessments and Analysis

In establishing our corporate strategy, we have also considered the impact that climate change has on our business and have conducted analysis to understand both the transition risks and the physical risks that could arise from climate change. In 2022, we completed our first qualitative climate risk and opportunity assessment. These Climate Risk Assessment Results and Climate Opportunity Assessment Results were aligned to recommendations from the TCFD risk taxonomy to provide an understanding of the types of climate-related risks and opportunities our business may face in the coming years.

For each of the TCFD risk and opportunity categories, we identified one or more risks/opportunities specific to us and identified the associated potential impacts to our business should the risk or opportunity come to fruition. Each identified risk and opportunity were also assigned a time horizon which indicates the timing of when we believe the risk/opportunity may occur.

For purposes of these assessments, we defined short-term as 0-1 year, medium-term as 2-5 years, and long-term as 5-10 years. Our Climate Risk Assessment Results and Climate Opportunity Assessment Results from 2022 are included in the appendix of this report because they remain relevant to our strategic planning process as we review the impact that the climate has on our operations and stakeholders.

To better understand the resilience of our business, we also leveraged a consultant to assist us in performing scenario analysis to analyze how physical climate risk may impact our assets in different future states. In this "Physical Risk" scenario analysis, current and planned future sites were evaluated on their potential exposure to acute physical climate risks including drought, flood, hail, hurricane, wildfire, and wind gusts. These perils were chosen based on their likelihood to impact our business operations regarding the production of hydrogen and renewable energy.

The results of these studies will continue to be relevant to our operations, and we have included the results in the appendix of this report.

Greenhouse Gas Emissions, Electricity Usage, and Water Consumption

Plug is pleased to share our emissions data for a second year, as we continue to monitor our environmental impact and action as part of our commitment to sustainability. We conducted a comprehensive greenhouse gas (GHG) inventory in accordance with the Greenhouse Gas Protocol. This inventory provides a detailed account of our company's GHG emissions and allows us to identify opportunities for emissions reductions.

- Water Withdrawn (U.S. Gallons)
  - 2023 - 211,902,028
  - 2022 - 20,987,323

- Scope 1 GHG Emissions (MTCO2e)[1]
  - 2023 - 10,180
  - 2022 - 8,424
  - 2021 - 3,641

- Scope 2 GHG Emissions (MTCO2e)
  - 2023 - 16,093
  - 2022 - 20,141
  - 2021 - 14,853

- Total Scope 1 & Scope 2 Emissions
  - 2023 - 26,273
  - 2022 - 28,565
  - 2021 - 18,494

- Electricity Usage (MWh)
  - 2023 - 54,356
  - 2022 - 60,277

[1] 2022 Scope 1 emissions have been updated to correct an error that resulted in an overstatement of our 2022 Scope 1 emissions.

GHG Inventory Process

To calculate our GHG inventory, we defined our operational boundaries identifying the operations and activities that contribute to our company's Scope 1 and Scope 2 GHG emissions. We considered all of our direct emissions sources, such as fuel combustion in our facilities (stationary) and company-owned vehicles (mobile), as well as indirect emissions sources, such as electricity consumption. Once we established our operational boundaries, we collected data on our emissions sources and calculated our GHG emissions using internationally recognized emission factors. Our GHG inventory report includes a breakdown of our emissions by Scope, which provides a detailed understanding of where our emissions are coming from. This information allows us to monitor and manage our environmental impacts as we look to make net-zero commitments.

We are committed to using our GHG inventory as a tool for monitoring and managing our emissions to ensure that we are operating in a sustainable and responsible manner. Measuring our emissions allows us to identify levers of decarbonization. Plug measures water consumption and use for both industrial and sanitary purposes, including manufacturing processes, R&D processes, pollution control equipment, cooling water equipment, irrigation, and non-production related maintenance applications. We obtain this information from water meters, water bills, or calculations based on available water data.

Water Consumption
Plug's water metering efforts are ongoing, and the company plans to improve its measurement capabilities in the future by adding more meters and enhancing its ability to capture data. These efforts will allow the company to more accurately track its water usage and identify opportunities for conservation and efficiency improvements. Plug is committed to reducing its water footprint and promoting sustainability in its operations, and the implementation of advanced water metering technology is a crucial step towards achieving this goal.

As a key input in the electrolyzer process, it is paramount that Plug understands its water consumption and its effects on local communities. While hydrogen is a clean and versatile fuel that will be important in the transition to a greener economy, water is consumed in the production of hydrogen through electrolysis. This means that as more industries adopt hydrogen as a fuel source and Plug continues its growth, the demand for water is likely to increase. We consider the environmental and social implications of this increased water usage, especially in regions where water scarcity is already a concern. To address these challenges, we look for ways to implement sustainable water management practices and promote water conservation efforts in the hydrogen production process.

Electricity Usage
We are a growing business and this growth leads to increased production, transportation, as well as water and electricity consumption. The production of green hydrogen requires large quantities of electricity. Our consumption of electricity will likely increase as we expand our use of electrolyzers to generate hydrogen.

Plug is focused on increasing its utilization of renewable energy sources such as wind and solar to produce the electricity used in electrolysis. By producing hydrogen using renewable energy sources, we intend to create a zero-emissions fuel that can be used to power a wide range of applications that are currently responsible for a significant proportion of global greenhouse gas emissions.

Our total Scope 1 and Scope 2 emissions may increase on an absolute basis in the near term as we continue to grow. We are seeking to reduce the intensity of our emissions as we improve the efficiency of our operations. While we acknowledge that our growth may lead to increased emissions, we are taking proactive steps to address this and are committed to being a responsible and sustainable company for the long term. For example, we are investing in renewable energy sources, exploring opportunities to increase our energy efficiency and prioritizing sustainable transportation options to reduce our carbon footprint.

Product Stewardship and Supply Chain Circularity

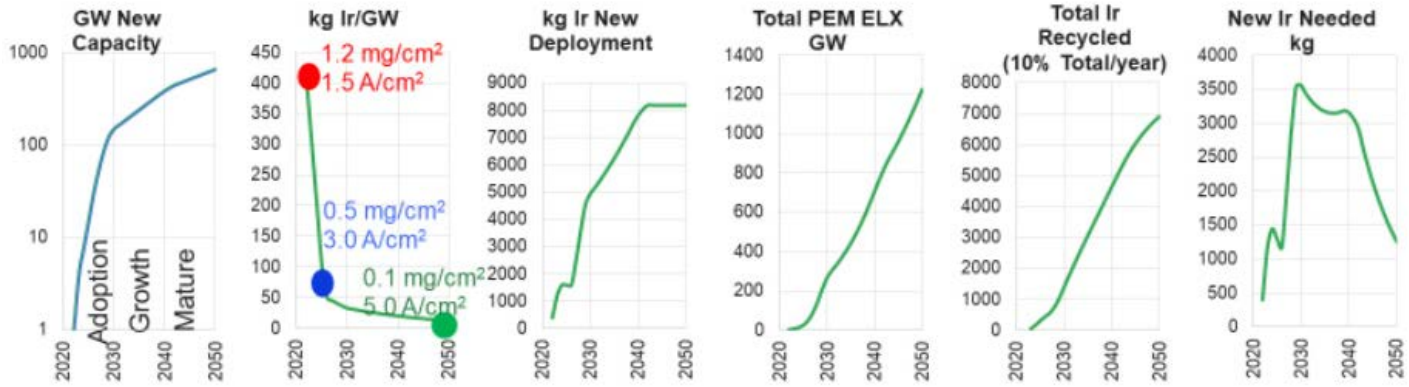
At Plug, we place a companywide emphasis on the circular economic model regarding end-of-life products such as fuel cells and electrolyzers. We have a four-pronged approach to recycle, reuse, repurpose, and remanufacture the precious metals in our processes. Our supply chain at Plug consists of two separate channels:

- **Our vertical supply chain** through our fuel cell and electrolyzer solutions
- **Our third-party supply chain,** through which we deliver goods and services by outside vendors.

The vertically integrated Plug solution, which combines fuel cell power with hydrogen solutions and aftermarket service, ties together all critical elements to power, fuel, and provide service to customers transitioning to fuel cell power. We apply its know-how, modular product architecture, and foundational customers to rapidly expand into other key markets, including zero-emission road vehicles, robotics, and data centers.

Concurrently, our engineering team has a keen focus on lowering precious metal loading in our membrane electrode assemblies (MEAs), specifically regarding iridium (Ir) to reduce the use of precious metals, by 70% in our electrolyzers in the next five years. Further, recycling our electrolyzer stacks at the end of life will allow us to reuse precious metals and limit demand growth for new iridium and other metals over time.

As part of our initiative to better understand the environmental impacts of our products, Plug has begun the process of quantifying the carbon footprint of select products. To date, we have completed quantifying the Carbon Intensity Life Cycle Assessment of our material handling fuel cell, which established a baseline to allow us to improve our future products. We will continue to evaluate when and how we quantify the carbon footprint of additional products. Assessing the carbon intensity of our products across the life cycle is a critical part of our product development to track improvements and measure against our baseline.



Sustainable Supplier Program
We employ a software called EcoVadis. EcoVadis provides business sustainability ratings, creating a global network of more than 130,000 rated companies. This system enhances our insight into the environmental and societal impacts of our vendors across critical themes: environment, labor and human rights, ethics, and sustainable procurement. EcoVadis assesses an organization's risks including critical materials, conflict materials, ethical business practices, and environmental impacts. Using this tool, we have created scorecards to assess and engage with suppliers.

Fuel Cell and Electrolyzer Unit Recycling and Remanufacturing
We have continued our work with multiple companies that resell recycled and reused materials. We monitor fuel cell products reaching the end of their life cycle. When they can no longer be used for their intended purpose, we employ four end-of-life treatment options:

1. Rental program:
During high-demand times, we will rent products from vendors when their life cycle ends, and we will return them to the vendor.

2. Component reclamation:
We reclaim used fuel cell components.

3. Internal use:
Once a product has been used, we will deconstruct it and reuse any pieces we can leverage in our operations.

4. Refurbish and recycle:
We recycle or resell the products once deconstructed and also reclaim parts such as fans, tanks, and castings.

Minimizing our Environmental Impacts

Green Bonds

Plug is committed to operating in a sustainable manner that helps to reduce the company's environmental impact. In May 2020, we issued our inaugural green bonds in the aggregate principal amount of $212,500,000 of 3.75% senior unsecured notes due 2025. The net proceeds from the offering were used to fund "Eligible Green Projects" designed to contribute to selected Sustainable Development Goals (each, an "SDG") as defined by the United Nations. "Eligible Green Projects" as described in the offering memorandum, dated May 13, 2020, in connection with the offer and sale of the notes include new and existing investments made by the company during the period from two years prior to the date of issuance of the notes through the maturity date of the notes, in the following categories, SDG 7 (Affordable and Clean Energy) and SDG 9 (Industry, Innovation and Infrastructure), as determined by an environmental risk assessment:

- Investing in the company's green hydrogen strategy, including the funding of strategic acquisitions in hydrogen generation, liquefaction, and distribution;
- Growing the global material handling, electric vehicle, and broader power markets for PEM fuel cells;
- Enhancing the company's fuel cell technology platform; and
- Expanding the company's GenFuel solutions, including hydrogen generation, liquefication and distribution capabilities in addition to onsite generation.

As of the date of this report, Plug has utilized all of the proceeds from the offering on such projects.

Manufacturing

Plug's Innovation Center and gigafactory in Rochester, NY is designed with the capacity to meet commercial demand. Our facility in Rochester manufactures MEAs for fuel cell and electrolyzer stack technology which are implemented in applications around the world. The site is now capable of vertical manufacturing of MEAs with the qualification and full internal utilization of coating capacity. The coating process emissions are controlled using a regenerative thermal oxidizer that destroys hazardous air pollutants in accordance with New York state requirements for health-based air quality. Our facility in Rochester has sustainability processes and operating procedures to maximize the reclaiming and/or recycling of ink make solutions, solvent flushes, and MEA materials scrap including the segregation of unique metals. These processes contribute to the mitigation of the need for virgin metals. The company has developed, implemented and maintains a quality management system at our facility in Rochester and the site has recently been awarded the ISO 9001:2015 certification.

Packaging

Plug is currently partnering with leading universities and their faculty, along with leading packaging companies to develop reusable packaging for our industrial-scale electrolyzer and fuel cell products. Streamlining packaging can significantly cut down on materials used in our global logistics footprint in the future.

Environment Management

Operations Waste
At Plug, we understand our responsibility to ensure that the manufacturing and technologies of our products take into consideration ways that conserve our natural resources and find solutions to reduce, reuse and recycle materials in our operations.

We manage processes that use chemicals, seek to reduce risks associated with chemical use and ensure proper transportation and disposal of hazardous materials and dangerous goods. In doing so, we consider each step of the process, including:

- Vendor selection
- Hazardous material approvals
- Employee exposures
- Safety and health
- Proper disposition of unused materials and wastes.

Plug works to minimize our impact on the planet and our local communities. Many of our operations are covered by environmental permits or licenses and, at a minimum, we ensure we comply in all material respects with all regulations in the locations where we operate.

Hazardous and Non-Hazardous Waste Data
Plug collects, classifies, and properly manages hazardous wastes produced from our operations using approved waste haulers and disposal companies. Common wastes produced in our facilities are spent solvents, used lithium-ion batteries, used oils, used coolant and a variety of laboratory chemicals.

Plug has partnered with an industry known waste management company to provide expertise in waste management, compliance, and operations. The partnership has allowed us to develop metrics that reduce operational costs, while allowing Plug to set future objectives and targets for:

- Total hazardous waste generated
- Percent of material recycled
- Landfill diversion rates in our operations.

Beginning in 2024, management will have visibility and access to certain reported metrics, taking us one step closer to reporting overall waste generated, which will help us set the groundwork for future waste reduction targets across our global footprint.

Precious Metals Recovery
The technology in the MEAs for fuel cells and electrolyzers include metals which have to be extracted from the earth. Plug works with some of the world's largest recyclers of secondary materials and precious metals recovery to create more circular economies for scarce resources.

In 2023, Plug instituted processes at our gigafactory in Rochester, NY prior to installing and ramping up a coating line for the MEAs. These included capturing all of the ink make solutions, solvent flushes and MEA sheets and coating to segregate the unique metals, recover them in a sustainable way, and deliver them back into the loop mitigating the need for newly mined virgin metals. MEAs are also collected and recycled from Plug's facilities in Spokane, WA and Latham, NY.

Hydrogen
Hydrogen is an output product of electrolyzers. It is typically used to power hydrogen fuel cells, or as a feedstock for various industrial processes. Excess hydrogen is vented into the atmosphere after being mixed with nitrogen and neutralized, so it is not flammable or explosive.

We are involved in an initiative aimed at reducing the venting of hydrogen within our operations while also enhancing operational efficiency. This effort not only underscores our dedication to minimizing environmental impact, but also demonstrates our commitment to sustainable practices within the hydrogen ecosystem.

Additionally, Plug is conducting research to deepen our understanding of the environmental consequences associated with any remaining venting, ensuring a holistic approach to mitigating our footprint and contributing positively to the broader goals of environmental stewardship. Through these efforts, we aim to elevate efficiency standards, promote environmental responsibility, and contribute to a more sustainable and resilient hydrogen industry.

Cybersecurity

We face a number of cybersecurity risks in connection with our business and recognize the growing threat within the general marketplace and our industry. Additionally, in the ordinary course of our business, we use, store, and process data, including data of our employees, partners, collaborators, and vendors. To help us identify, assess, and mitigate risks to this data and our systems, we have implemented a cybersecurity risk management program that is informed by recognized industry standards and frameworks and incorporates elements of the same.

Our cybersecurity risk management program includes a number of components, including information security program assessments and continuous monitoring of critical risks from cybersecurity threats using automated tools. We periodically engage third parties to conduct risk assessments on our systems, including penetration testing and other vulnerability analyses. For example, in 2023 we engaged several third parties to assist with implementing processes regarding endpoint detection and response, logging and monitoring, multi-factor authentication, business continuity and disaster recovery, and internet proxies. Additionally, we have implemented an employee education program whereby employees are able to attend cybersecurity awareness training during the onboarding process.

The Vice President of Information Technology (VP of IT) oversees the daily operations of our cybersecurity risk management program and plays a central role in assessing and managing critical risks from cybersecurity threats with the support of additional IT professionals. The VP of IT role is currently held by an individual who has approximately twenty years of experience in information security management, application portfolio management, and IT governance, risk, and compliance. The VP of IT periodically reports on the cybersecurity program to the CFO.

Our cybersecurity governance framework includes oversight by the Audit Committee. The Audit Committee meets quarterly with the CFO regarding the cybersecurity risk management program, including as relates to critical cybersecurity risks and cybersecurity initiatives and strategies. Additionally, on an annual basis, the VP of IT reports the current state of cybersecurity risk management to the full Board of Directors.

People - Taking Care of Our Employees

Connecting Employees and Plug's Mission
Plug's mission is centered on a groundbreaking endeavor: Displacing fossil fuels with zero-emission green hydrogen to help the world achieve the goal of not exceeding the world's average temperature of preindustrial times by more than 1.5 degrees Celsius (2.7 degrees Fahrenheit). Our employees stand behind Plug's commitment to decarbonization and are proud of their work that is creating a brighter future for generations to come.

Diversity, Equity, and Inclusion
As a people-first company, Plug is committed to promoting Diversity, Equity, and Inclusion within our organization. We strive to empower our employees, customers, and stakeholders and recognize the importance of having unique perspectives. Plug employees' diverse skills and backgrounds help us to deliver unparalleled innovation. Our achievements would not be possible without them. Our employees reflect our company values, and we are proud of the people who represent our organization.

Plug is dedicated to fostering a culture of diversity and committed to hiring talented individuals from all backgrounds and perspectives to which the company's ultimate success is linked. We are an Equal Opportunity/ Affirmative Action Employer and actively seek to maintain a workplace that is free from discrimination on the basis of race, color, religion, sex, sexual orientation, nationality, disability or protected veteran status.

At Plug, we appreciate the collective differences of our employees, and we value different perspectives to solve complex problems and bring innovative solutions. We endeavor to champion inclusivity, to respect each other, and to celebrate our differences as we build an environment that we are all proud to be a part of. Our CEO, Andy Marsh, together with the leadership team, drives these efforts, which are embedded in our culture and policies.

Diversity:
We embrace the unique characteristics and social identities of our employees. Collectively, these individual differences enhance our culture and company achievements. We believe that our strength comes from our intellectual and social diversity and that diversity powers innovation and inspires our team.

Equity:
All employees have equal opportunity to advance. People are the power of Plug, and we are committed to investment in our employees. We seek to provide everyone at Plug with equal opportunity to grow and develop, leveraging the unique skills and differences of their individual background, characteristics, and aspirations.

Inclusion:
We strive to cultivate inclusivity as an organization. At Plug, we are transparent and collaborative, welcoming ideas, thoughts, and questions from everyone. We respect different strengths and viewpoints, understanding that we are stronger together.

To further our DEI initiatives in 2023, we implemented several programs to enhance the employee experience. These programs include:

- Our Employee Resource Groups (ERGs) are social groups with a goal of informally bringing together employees with shared interests to promote awareness, create bonds, and foster an inclusive workforce. ERGs encourage employees to leverage their unique backgrounds through involvement in various employee networks such as the Women's Group (Women Impact Network or WIN), which focuses on promoting career development, mentorship and collaboration for women, and the Military Service Group, which focuses on providing a network to support military members and veterans.

- Implementation of a digital platform to connect employees across the globe. This platform, called The Community, enables employees to socialize and connect through ERGs. The goal is to foster a One Plug Culture through connection, engagement, and collaboration.

- Installation of digital displays on manufacturing room floors and break rooms for employees who may not be able to easily receive company-wide email communications to improve timely access to organizational communications, including communications related to ERGs and DEI initiatives. This program continues to expand across the U.S. and globally.

To bolster our DEI strategies, we track diversity categories such as race, age group, and gender of our employees through our human capital software to enable us to strategically implement programs and processes to engage all employees. We believe that our DEI strategy, like any other, should be rooted in data and analytics to measure progress and foster accountability. We are committed to a work environment that supports, inspires, and respects all individuals and in which personnel processes are merit-based and applied without discrimination. We make employment decisions (including decisions with respect to hiring, promotion, job assignment, pay and termination) without regard to a person's race, ethnicity, color, religion, sex, national origin, sexual orientation, gender identity, pregnancy, age, disability, and other protected statuses under law. We will not deviate from being an equal opportunity employer for the purpose of achieving our stated diversity vision. We believe the company can achieve the diversity vision described not by quotas or mandatory preferences but by creating an inclusive environment where all feel valued and supported, broadening our recruiting methods and sources; and reducing (or implementing programs to curb the effect of) implicit bias through education and participation in training and team building opportunities.

Every year, our Human Resources (HR) team prepares and presents a plan and corresponding goals to Plug's leadership. This includes collecting updated data and any required Equal Employment Opportunity (EEO) and Veterans' Employment and Training Service (VETS) reporting, compiling the annual data for compliance reporting, refreshing plan data, and goals as needed, and finally reviewing and sharing this annually with the executive leadership team. Moreover, the HR team partners with Plug's Engagement & Inclusion Manager to work on continued diversity, equity, and inclusion training and create additional awareness around the importance of diversity in hiring.

To progress further on our DEI initiatives such as recruitment, talent development, and equitable compensation packages, we have established the following policies which can be found on our Investor Relations website at this link: https://www.ir.plugpower.com/overview/default.aspx.

Fair Treatment

Fair Treatment Policies (FTP) are incorporated in the Employee Handbook. Plug employees are provided with a copy of the handbook and are required to review it and confirm their compliance. We also follow the FTP for our employees and business partners. Fair Treatment Policies include, but not limited to:

- Equal Employment Opportunity
- Prohibition of Discrimination Based on Reproductive Health Decision Making
- Individuals with Disabilities and Pregnancy-Related Conditions
- rohibition of Discrimination, Sexual and Other Workplace Harassment, and Retaliation Policy and Reporting Procedure
- Prohibition of Retaliation
- Pay Transparency

For more details on this and our human rights commitments, see the Governance Policies - Business Ethics and Compliance section of this report.

In connection with our Affirmative Action Plan, Plug regularly analyzes the incumbency versus availability data, which shows the employment and availability percentages for each job group and shows whether a placement goal is required. When the percentage of individuals with disabilities and/or minority status in one or more job groups is less than the utilization goal, we take steps to determine whether and where impediments to EEO exist. Our partnership with Circa, formerly known as LocalJobNetwork, supplements these insights. Circa provides Office of Federal Contract Compliance Programs (OFCCP) compliance management and recruiting technology solutions to deliver a level, equitable playing field for qualified candidates and to meet our goal of building high-performing, diverse teams.

Circa has access to a vast network of 15,500 community partner relationships that can support our inclusive culture and advance our commitment to attracting, developing, engaging, and retaining diverse talent, including veterans, LGBTQ+ members, individuals with disabilities, minority groups, women, college students, and skilled trade associations. Partnerships with universities and assistance from diverse employees also shape our recruiting efforts. Plug works with veteran recruitment firms such as Orion and is proud to have approximately 310 veterans of the U.S. Armed Services as employees as of December 2023, representing an increase from approximately 290 in 2022.

Supporting Employee Well-being

Competitive Benefits

As part of our commitment to our people, Plug offers employees competitive benefits, including health, vision, and dental plans, flexible spending accounts, comprehensive life insurance (including company-provided life insurance), disability coverage, and 401(k) retirement program. Additionally, employees are offered a vacation and holiday package, an employee referral program, educational assistance, volunteer time, and paid parental leave to aid in bonding time for new parents. In 2024, we launched a Global Employee Assistance Program to help with mental health, coaching, and therapy services.

As of December 2023, approximately 96% of our employees participated in our 401(k) package, which includes a 401(k)-retirement savings plan that offers up to a 5% match in Plug stock. To encourage savings, we auto-enroll all employees in the plan after 60 days of employment. We offer our employees options that integrate ESG risks and considerations into their investment process.

At Plug, we believe employee well-being is crucial to success. When employees feel their best, they perform their best. We are pleased to offer a comprehensive wellness program that is designed to promote long-term healthy, active lifestyles. Additionally, our Lifestyle Reimbursement Program provides up to $1,200 per year to accommodate employees' wellness activities.

Employee Engagement

We believe that transparency and communication are key elements of our culture. Since the onset of the COVID-19 pandemic, we have held a weekly employee meeting led by our CEO, Andy Marsh. The meeting includes a timely business topic delivered by a subject matter expert within Plug. This provides timely information and opportunities for upcoming leaders to develop their presentation skills and aims to align the workforce with our vision, strategy, and objectives. An open question and answer session is hosted as part of this weekly employee meeting, and employees are encouraged to submit questions.

Additionally, leaders are required to meet with employees at least quarterly to discuss their job performance and contribution to strategic business objectives, as well as their professional development goals. We have remote and hybrid work arrangements which offer many benefits for our employees and the company, including cost savings and flexibility.

We believe that listening to our employees is key to providing a work environment that is inclusive and results in a motivated and engaged workforce. We conduct anonymous employee surveys to understand where we have opportunities to improve and solicit ideas from employees. In our most recent survey in March 2023, survey participants indicated they would recommend Plug as a great place to work and they are happy working for the company. The insights from the most recent survey allowed us to review employee feedback and help leaders in each team identify action items to improve employee engagement. According to employee responses to our survey, Plug's top strengths are prospects, purpose, and authenticity, which remained consistent from the previous 2022 survey. Survey participants indicated they are excited about Plug's future; they believe they are doing meaningful work at Plug and feel comfortable being themselves at work.

Employee Health and Safety

The health and safety of our employees is an important focus at Plug, and we strive to continuously take appropriate actions to proactively mitigate risks that lead to work-related injuries and illnesses and establish procedures with appropriate protection for the safety of our employees. We expect all our sites to report any incidents that affect the health and safety of our employees or the environment, and properly collect data on environmental and safety incidents, recordable injuries or illnesses, near misses, and perform root analysis and identify corrective actions to prevent future occurrences. Process safety is a key focus to manage our most hazardous processes and ensure we design, operate and maintain safe facilities. Key indicators for improvements this year are summarized below:

Total Recordable Incident Rate (TRIR) and Incident Tracking to Closure Rates

In 2023, Plug's Total Recordable Incident Rate (TRIR)[1] for work-related injuries or illnesses was 2.8 and the fatality rate was zero. Approximately 470 employees were trained in 2023 about expectations regarding the process to report EHS incidents.

Since implementing our incident management system in October 2022 and related communications and training, we have seen an increase in reporting, investigations and corrective actions. An EHS software management system is used and deployed globally to report, notify, and track incident investigations including near misses. For example, approximately 1,000 EHS incident reports were recorded in the EHS software management system in 2023 as compared to approximately 400 in 2022. The number of days since a report was opened is closely tracked with a goal of 100% incidents closed in less than 30 days, unless long term corrections are necessary.

EHS Training Campaigns

Our learning management system has created a one-stop location where employees can access all available environmental, health, and safety training in a multitude of languages. Our EHS team oversees this program and meets monthly while site-specific safety committees, composed of employees from a mix of categories and business divisions, ensure requirements are met at each of our facilities. In 2023, we rolled out fourteen EHS training campaigns for all employees and facility-specific roles globally, and approximately 14,000 classes were completed across various departments and locations, including incident investigation training for supervisors, hydrogen safety, personal accountability for safety, OSHA's Hazard Communication Standard (HazCOM), United Nations' standard on hazard communication and labeling of chemical products known as the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), workplace safety, and nitrogen safety.

[1] "TRIR" is an Occupational Safety and Health Administration (OSHA) safety metric that was adopted by the company to continue to drive improvements in safety performance. TRIR is a measure of the rate of recordable workplace injuries or illnesses – such as medical treatment (other than first aid), restricted work, lost-time and other specific injuries – and is calculated as the number of recordable injuries or illnesses multiplied by 200,000 and then divided by the number of hours worked.

Management of Change (MOC) Standard

A cross-functional team of subject matter experts developed the first standard across Plug to provide minimum requirements for effectively managing changes to a facility, process, or product over its lifetime from design, construction, operations and decommissioning. The Management of Change (MOC) standard helps ensure that any changes do not inadvertently introduce new hazards or unknowingly increase the risk of existing hazards.

Figure 1
High Level MOC workflow

Overall Note: This workflow is representative of permanent and temporary changes. Emergency changes follow a separate workflow.

Global

In 2024, we continue to grow the global database of all Plug locations worldwide which allows us to create a risk profile based on processes, permits, emerging regulations and compliance reporting. This data helps our EHS team and other decision makers determine resources needed to manage risk and ensure compliance by the company.

We continuously assess the potential chemical hazards in our products and provide customers with legally compliant safety data sheets in accordance with applicable regulations. The safety data sheets provide information on the chemical or a product's hazardous constituents, and the guidelines on safe handling and what to do in the event of an emergency or spill. The safety data sheets are available upon request.

Education and Training

Education and training are essential pillars for the development of our employees. We uphold our commitment to providing comprehensive, precise, and tailored instructional programs that are designed to empower our employees with the knowledge and competencies essential for their roles. In January 2021, we implemented the Workday Learning system and we continue to use this tool to deliver a variety of training to our employees.

Our leadership development offerings include live, online cohort-based learning to reach our employees globally. We focus on learning as a continuous journey and putting learning into action by encouraging participants to make commitments after each course. To date, we have had more than 230 leaders participate in programs focusing on topics such as change management, feedback, coaching, and building high-trust relationships. Participants are encouraged to continue their education and training by taking elective courses of their choosing. Additionally, participants have an opportunity to focus on ongoing development by completing a manager assessment that provides feedback from direct reports and further fosters their development journey.

We also offer Knowledge Topics for Leaders to support our leaders on their journey at Plug. This series includes virtual meetings with guest speakers to introduce and discuss key topics, followed by articles, podcasts, book recommendations, tools, and resources for additional support and reference. The topics we cover during these sessions are purposely selected to align with Plug's culture, and leader expectations, and to support Plug leaders.

We support employees with their career development. For example, in 2023, we refreshed the career path for our engineers to clarify what core competencies, experience, and knowledge are needed to grow and develop at each level. We also offer professional skill development via online learning, and Plug employees completed approximately 38,000 video courses in 2023. In addition, we offer LinkedIn Learning, which employees use for short, bite-sized learning for topics relevant to an immediate or long-term opportunity area. Online participation in internally developed business-related courses called Plugology is encouraged for all employees and helps newly hired employees assimilate to the business.

We continue to expand our apprenticeship program at our Rochester gigafactory to provide career and development pathways for our manufacturing employees. We plan to regularly grow the number of apprentices at our Rochester location and other areas of the business.

Plug values and encourages continued education amongst its employees. We offer a tuition reimbursement program, where employees are provided financial support to continue their education.

Current Internship, Co-Op Programs, and Senior Study Projects:
In 2023, Plug attracted approximately 1,900 student applicants from universities across the globe to support various projects at multiple Plug locations. These programs include:

- **Internship Program:** This is a 10- to 12-week intensive paid experience, which students generally complete during their summer or winter breaks, and is open to both undergraduate and graduate students. Students are provided an opportunity to get a "sneak peek" at potential future Plug employment and help support the various projects, research efforts, and needs of the business units.
- **Co-Op Program:** Co-op students also complete a paid experience, but these are generally completed during their school semesters rather than during their summer or winter breaks. Students generally receive educational credits in connection with our co-op program and work at Plug for a longer period of time compared to our internship program.
- **Senior Student Projects**: Senior Student Projects connect students with Plug subject matter experts so they can gain exposure to real-world applications in conjunction with research through the students' colleges and universities.

Educational Partnerships and Scholarships

Plug aims to be a leading advocate for educational empowerment and is proud to enter the second year of its scholarship program at the Rochester Institute of Technology (RIT). The initiative is dedicated to supporting female minority, first-generation students pursuing master's graduate degrees. The scholarship program underscores Plug's commitment to fostering diversity, inclusivity, and academic excellence. By investing in their education, Plug aims to not only transform individual lives but also contribute to a more diverse and inclusive workforce in clean technology and energy.

Plug is also working with other universities, including Washington State University (WSU) and the University of Maryland (UMD), to develop comprehensive training programs for technicians and engineering professionals in the burgeoning hydrogen sector.

In an era marked by a growing emphasis on sustainable energy solutions, Plug recognizes the critical importance of nurturing a skilled workforce capable of driving advancements in hydrogen technology. By partnering with esteemed institutions such as WSU and UMD, Plug is poised to play a pivotal role in shaping the future of the hydrogen industry. These training programs will cover a spectrum of relevant hydrogen topics, addressing the specific needs of both technician and engineering-level employees across the hydrogen ecosystem. The training programs are designed to align with industry trends, technological advancements, and emerging challenges, ensuring that participants are well-prepared to contribute to the evolving hydrogen landscape.

Also, in collaboration with a consortium of five universities, including several minority-serving institutions, Plug is leading the implementation of workforce development programs tapping into on-campus infrastructure. Through this effort, the consortium aims to empower the next generation of professionals with the knowledge and expertise required to excel in the hydrogen-focused landscape, while creating a network to share and develop best practices for the everyday use of hydrogen, as well as fostering the next generation of breakthroughs in technology.

As the above programs progress in development, Plug anticipates that they will have a positive impact on the workforce and foster a community of knowledgeable and skilled professionals ready to tackle the challenges of a hydrogen-powered future. Plug remains committed to supporting the growth and success of individuals who will play a crucial role in advancing the frontiers of sustainable energy.

Supporting Our Communities

Plug recognizes the importance of supporting our local communities as we continue to grow. We encourage our employees to give back in a way that aligns with their individual values by offering philanthropy initiatives and enabling our employees to donate money to causes they care about in their individual communities through payroll deduction. We are a company that values our close relationship with the local communities where we operate.

We are immensely proud of our partnership with the United Way, which aims to advance the common good in communities across the world. We are excited to report that approximately 80 Plug employees pledged a total of approximately $38,000 in the 2023 program year. This partnership facilitates direct employee donations to contribute to United Way's four pillars of supporting communities, which includes:

- Ability to meet basic needs
- Education leading to a good job
- Income providing financial security
- Ability to gain and maintain health

In 2023, we launched a program called Plug Talent Ambassadors (PTA). The program's primary goal was to maximize the impact of our community relationships to ensure we are building the strongest possible workforce. Employees engage with external organizations by giving presentations, serving as guest lecturers, and visiting schools on behalf of Plug. The PTA is expected to build our internal network of talent ambassadors to represent Plug in the community.

We appreciate the opportunity to come together and give back to our local communities. We have a Community Relations Program, which we use to evaluate deserving nonprofit organizations and community involvement activities to boost our corporate giving program. We have created a process to assess how Plug can invest in our communities through sponsorship, donation, and volunteerism that support education, our environment, and innovation that align with our values. Each Plug employee is provided 16 hours per year of paid time off to volunteer with a not-for-profit organization of his or her choice and we monitor to track the number of volunteer hours utilized by each employee.

Appendix

Governance Policies - Business Ethics and Compliance

Conflict Minerals Policy
Plug strives to have a conflict-free supply chain and is committed to working with its suppliers to increase transparency regarding the origin of minerals contained in its products, including minerals identified as conflict minerals. Plug starts by identifying relevant suppliers and collects and reviews information from them on a company-by-company basis. This task is performed by the Supply Chain Team. Plug has adopted a Conflicts Mineral Policy, which is available on our website at: https://s29.q4cdn.com/600973483/files/doc_downloads/esg/OP-0150ConflictMineralsPolicy_Rev120122.pdf. Plug reviews its compliance with the Conflict Minerals Policy on an annual basis.

In accordance with the Conflict Minerals Policy, Plug's Supply Chain Team engages in an inquiry regarding the use of conflict minerals from our direct suppliers identified in the due diligence process, as well as an inquiry into whether necessary conflict minerals came from recycled or scrap sources. Each of the identified suppliers is responsible for soliciting that information its next tier of suppliers. Plug seeks information from suppliers throughout our global supply chains, regardless of where the components and materials are purchased. We work with suppliers to ensure consistency in the tools used to establish this process.

As a result of these efforts, Plug requests suppliers to undertake the following actions:

- Report the required company-level data and the smelter data, for all uses of the designated minerals and derivatives in the industry-standard Conflict Minerals Reporting Template (CMRT, produced by the CFSI*) tool for any materials, components or products supplied to Plug after January 1, 2019 and return a completed CMRT, including all smelter information for all of the designated minerals
- Document all steps taken to collect and report conflict mineral information and preserve the documentation.
- Confirm compliance with our policy annually.

Audit and Ongoing Due Diligence Process: Materials collected from suppliers are reviewed via ongoing due diligence. The frameworks in our Conflict Minerals Policy can be found in the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. These frameworks support action plans to provide further information and guidance as needed to address findings. Information on the OECD can be found at:
https://www.oecd.org/daf/inv/mne/OECD-Due-Diligence-Guidance-Minerals-Edition3.pdf.

Fair Treatment Policy
At Plug, we are committed to treating everyone with dignity and respect. Plug has adopted the Fair Treatment Policy, which describes our social responsibility expectations from business partners such as suppliers and suppliers' manufacturing facilities, including all subcontracting, packaging, and distribution facilities, and applies to all individuals working with and/or performing services for Plug, including our employees, directors, contractors, and consultants. The policy includes a link for anonymous reports and a hotline to report harassment violations to the appropriate supervisor, senior manager, or HR team member. Plug's Fair Treatment Policy ensures ethical behavior and respect for our stakeholders' human rights, including the prohibition of discrimination, child labor, human trafficking, and slavery practices throughout our business and supply chain partnerships. We support the Universal Declaration of Human Rights which informs our efforts.

International Human Rights Policy
Plug recognizes the importance of human rights and our responsibility to implement and maintain sustainable business practices. Plug has adopted the International Human Rights Policy, which defines our commitment to understand, manage, and encourage responsible, honest, and ethical behavior throughout our operations. Additionally, the policy outlines our intent to embrace and comply with several recognized international human rights standards, including those outlined by the United Nations International Bill of Human Rights, specifically the Universal Declaration of Human Rights and the International Labor Organization's Declaration on Fundamental Principles and Rights at Work.
Furthermore, among other things, the International Human Rights Policy makes it clear that Plug is committed to respecting the rights of children and the elimination of child labor. Plug ensures that all employment is voluntary and Plug will not engage in, support, or condone any form of forced, bonded, or compulsory labor or anyone who engages in any other form of exploitation. Plug recognizes the importance of an open dialogue between leadership and employees and their representatives (including trade and labor unions and employee forums). Plug respects the cultures, customs,

values, and laws of the communities in which we operate; Plug commits to compliance with applicable law in every country and jurisdiction in which we operate. Plug considers human rights when considering the locations of operations; Plug considers human rights criteria when screening contracts with third parties; and Plug forbids retaliation which includes any conduct, whether or not workplace or employment-related, directed at someone because they opposed a practice in violation of this policy, made or encouraged another individual to make a good faith report, or participated in an investigation of such, which might deter a reasonable individual from making or supporting a report of a violation of this policy.

Anti-Bribery and Anti-Corruption

Our policies for employees and business partners strictly prohibit all forms of bribery and corruption, whether commercial or governmental. For employees, these policies are incorporated into the Employee Handbook and each must read and reaffirm compliance with such policies annually. Further, our mandated training includes modules on vigilance with regard to eliminating bribery and corruption. Considering Plug's international expansion, the Board has requested a more directive and formal training program which we are currently working to develop. For business partners, these policies are included below in the Responsible Supply Chain section of this report.

Responsible Tax

As Plug grows, we remain vigilant in our compliance with respect to the complex taxation rules and practices. Plug files income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. In the normal course of business, the company is subject to examination by taxing authorities. We endeavor to treat our taxation obligations responsibly and transparently. We utilize outside expertise for the development of our tax strategies and to assist us in remaining current on tax law and analyzing our tax risk.

Responsible Supply Chain

We are committed to conducting business ethically and in compliance with applicable law. We expect our business partners, contractors, vendors, suppliers, and any entity we do business with to obey and comply with laws and regulations and any agreed-upon contract. Accordingly, we have a Supplier Code of Conduct which provides guidance for doing business with Plug and calls on suppliers to adopt best practices and principles in the areas of human rights, environmental practices, and business ethics. If any of our suppliers are flagged for their mistreatment in one of these areas, we will work to remedy the situation so that our entire end-to-end supply chain operations are true to our commitment to build the green hydrogen economy in a responsible way.

We continually work to improve our operations and expect our business partners to promote ethical and law-abiding principles throughout their supply chain as outlined below.

- Freely Chosen Employment: Suppliers shall not use force, bonded or indentured labor. Suppliers shall not support, promote, or engage in the practice of slavery or human trafficking.
- Child Labor and Young Workers: Suppliers shall not illegally use child labor. The employment of workers below the age of majority as defined and where permitted by applicable local law shall only occur as per the parameters established under such applicable laws and in non-hazardous work conditions.
- Freedom of Association: Suppliers shall respect the rights of workers, as outlined in local laws, to associate freely, join or not join labor unions or workers' councils, and seek representation.
- Wages, Benefits, and Working Hours: Suppliers shall pay workers according to applicable wage laws. Work hours shall be in compliance with applicable laws.
- Anti-Corruption and Business Integrity: All forms of corruption are prohibited. Suppliers shall not offer, pay, promise, or accept bribes or participate in other illegal inducements in business or government relationships.
- Conflicts of Interest: Suppliers shall not engage in any activity with an employee of Plug that could create a conflict of interest.
- Environmental, Health and Safety (EHS): Suppliers shall comply with all applicable EHS laws and regulations.
- Disaster Recovery: Suppliers shall have a disaster recovery plan for emergencies and ensure that their facilities meet appropriate safety standards.
- Legal Requirements: Suppliers shall comply with all applicable laws and regulations.
- Compliance Assessment: Plug reserves the right to assess suppliers and compliance with the Supplier Code of Conduct will be conducted through use of Plug personnel or third parties.

Climate Risk Assessment Results

TCFD Risk	Plug Risk	Impact	Mitigation Strategies	Time Horizon
Transition Risk: Policy and Legal				
Increased pricing of GHG emissions	The implementation of a carbon tax in jurisdictions in which Plug operates	Green hydrogen requires large quantities of electricity, and to obtain the required electricity, Plug plans to make investments in renewable energy PPAs to produce clean low-cost electricity. However, we also use on-grid energy companies to obtain the necessary levels of electricity, where an implementation of a carbon tax could hurt Plug's annual income if the RECs from the PPAs are not considered.	We calculated our 2022 GHG Scope 1 and 2 emissions for reporting, investor relations, and future emission targets. The future emission targets include the development of technology and processes that will ensure green hydrogen is generated using little to no GHG emissions, through renewable energy infrastructure, net-zero production plants, and safe means of distribution of green hydrogen.	Medium
		A Carbon Border Adjustment Mechanism, if implemented, is projected to take the form of an additional cost on all imports from countries with a reduced or no carbon price, and a credit for exports to keep products competitive in the growing global market. We are reliant on imports of precious metals for electrolyzers, so a potential carbon tax based on imports may create a risk of revenue loss.	We are working on implementing new recycling technology that would allow utilization of old fuel cell iridium in the production of new electrolyzers and other fuel cells. This new recycling technology will allow us to decrease reliance on importing new precious metals, which will also decrease the impact of carbon tax on supply chain imports. In addition, we have been focusing on diversifying supply chain reliance through regionalizing supply channels (eliminating the reliance on single sources), which may allow us to move away from countries that could result in a high carbon tax (e.g., importing from China).	Medium
Enhanced emissions-reporting obligations	Increased emission reporting policy that focuses on company's GHG emissions	Increased emission reporting requirements may require companies to disclose GHG emissions in a more efficient manner and may require that calculations be audited. Given the complexity of calculating Scope 1 and Scope 2 emissions and the fact the company plans to increase its production of hydrogen requiring additional sources of electricity, PPAs and/or offsets, reporting may take more time. These potential mandates may require dedicated employees to calculate emissions efficiently on an annual basis or require external consultants to be hired, both of which would increase operational costs	We have calculated our GHG emissions for 2021 and 2022, providing historical metrics to use going forward. Additionally, we are evaluating technology enhancements which will allow us to reduce reliance on manual processes in emissions calculations.	Medium Medium

TCFD Risk	Plug Risk	Impact	Mitigation Strategies	Time Horizon
Transition Risk: Policy and Legal				
Mandates on and regulation of existing products and services	Changing regulations on hydrogen fuel production and transportation processes could delay the scaling of green hydrogen production	The recently passed Inflation Reduction Act will provide up to $3/ kilogram of hydrogen, which may support up to 75% of capital improvement projects. However, if we are unable to qualify for these credits/ incentives due to the lifecycle of the carbon intensity of products, the ability to scale operations to a level necessary to support needed energy demand would be greatly impacted. This would impact the amount of hydrogen we are able to produce, which in turn would ultimately impact revenue.	We actively advocate for and help draft legislation in favor of policies that support the growth of the clean hydrogen industry. This helps to progress the potential for a green hydrogen tax credit and avoid delays in scale of production.	Medium
Exposure to litigation	Increased exposure to litigation as it relates to sustainability claims or other climate-related activities and initiatives	Climate-related litigation cases are increasing all over the world against fossil fuel, natural gas, and coal powered companies. The highly explosive nature of hydrogen, and the negative impact on the atmosphere if leakage occurs, creates negative stigmatizations of hydrogen with different environmental groups. Litigation may cause reputational damage and lead to a loss of revenue.	Our legal team is proactive regarding climate risk disclosures by observing peer responses to climate risk factors and seeking outside legal counsel for consulting on which climate risks are most significant to address. Utilizing outside consultants and advisors and staying consistent with industry peers, we have been able to remain transparent in disclosures, minimize the chance for litigation, and focus on regulatory proceedings and policy discussions.	Medium

TCFD Risk	Plug Risk	Impact	Mitigation Strategies	Time Horizon
Transition Risk: Technology				
Unsuccessful investment in new technologies	New or existing technology that fails to perform creates set-back on development road map	To increase the ability to produce and use less rare minerals and raw materials, innovation is key. Should a large investment be made in a new technology that is unsuccessful in performing its intended use, we may suffer operational and investment losses.	We have established a 5-year development road map, with technology being the main focus. Every 6 months, our development and technology teams review the road map and any failed technology, making adaptations to the technology as needed.	Short
Costs to transition to lower emissions technology	Large capital investment will be needed to transition distribution fleet to hydrogen trucks	The technology to produce the number of hydrogen-powered delivery trucks needed for our business is not currently available. However, when available, a large capital investment may be required to procure the number of trucks needed, which may increase our expenses. Diesel trucks delivering green hydrogen add to the carbon intensity associated with the lifecycle of our products, which may impact our ability to call the product green hydrogen. Therefore, there is also a reputation risk associated if the hydrogen distribution truck technology is not viable for mass production.	Most of our investments go to scaling up our hydrogen production and R&D, both of which focus on increasing the potential to earn revenue and mitigating risk against potential setbacks in other areas.	Medium

TCFD Risk	Plug Risk	Impact	Mitigation Strategies	Time Horizon
Transition Risk: Market				
Uncertainty in market signals	Market is still heavily influenced by government demand for fossil fuels, leading to little incentives for hydrogen	The widespread transition from traditional fossil fuels or lithium batteries to hydrogen is heavily influenced by governmental policy or incentives. If the recently passed Inflation Reduction Act credits/ incentives were to be overturned by a newly elected government or not adopted as anticipated, this would inhibit our ability to expand operations as the scaling of hydrogen-powered vehicles may be more costly without government influence.	Our dedicated policy team continuously monitors legislative bills and is actively involved in working with governmental agencies in designing regulations and incentives around the hydrogen industry.	Long
Increased cost of raw materials	Increase in price and decrease of availability of raw material leading to increased production challenges	We are highly dependent on raw materials which go into the production of hydrogen. Iridium, for example, is a rare metal, and with increasing demand for hydrogen, prices are forecasted to rise exponentially (since the start of 2021 the price of iridium has increased by 140%). As different countries control the mining regulations and export quantities, there could become a shortage of iridium, which may delay operations or increase operating costs.	We purchase many raw materials in advance and store it at local sites to ensure sufficient hydrogen supply. We have enough storage capacity to hedge price volatility using this strategy. Additionally, we have moved to regional diversity and various mining firms to also address potential iridium shortages.	Medium

TCFD Risk	Plug Risk	Impact	Mitigation Strategies	Time Horizon
Transition Risk: Market				
	Increase cost of renewable energy implementation	As more companies set net zero targets, we expect there will be increased demand for Renewable Power Purchase agreements (PPAs) and/or Virtual Power Purchase agreements (vPPAs) which include Renewable Energy Credits (RECs) to offset emissions. This increased demand is likely to increase the price of RECs as well as PPAs. If we are not able to secure RECs in a timely fashion at low cost, this may compromise the ability to produce green hydrogen at an affordable price.	We source RECs and vPPAs as needed to ensure the hydrogen we produce is considered green. To help understand our sensitivity to these prices and better prepare our business, we have also performed sensitivity testing, as described in the Climate Transition Risk Analysis section.	Medium

TCFD Risk	Plug Risk	Impact	Mitigation Strategies	Time Horizon
Transition Risk: Reputation				
Shifts in consumer preferences	As customers focus on sustainability in purchasing decisions grows, failing to meet the product demand results in customers finding alternatives	Green hydrogen is one of the leading alternative fuels in reducing the impact of GHG emissions, and it has a wide array of uses across different sectors including transportation, telecommunication, and energy. As technology development begins to align with hydrogen production, there is a risk that the market demand for green hydrogen will be too great for us to maintain production and inventory. In the next 2-5 years, if green hydrogen technology is developed and affordably priced, our green hydrogen demand projections might not match potential consumer demand, which may cause customers to turn to other alternatives or competitors if their needs are not met, causing a loss of revenue for us.	We are working on developing green hydrogen production infrastructure, supply chain regional diversification, and renewable energy farms to stay in front of the potential rise of hydrogen technology and demand.	Medium
Stigmatization of sector	Greenwashing by the broader energy sector has a trickle down effect on ability to attract customers	Green hydrogen may get stigmatized as blue or gray hydrogen, which could cause us to experience opposition from environmental groups concerned about GHG emissions associated with the production of hydrogen and hydrogen leakages. Consumers may trust environmental groups' opinions, and negative campaigns can spread to the market based on the idea that Plug is using fossil fuels to generate hydrogen instead of renewable sources.	We continue to stay transparent in the marketplace, educating and promoting green hydrogen technology and production methodology. We are also heavily involved with governments and other agencies to promote the development of green hydrogen infrastructure and consumer trust.	Long

TCFD Risk	Plug Risk	Impact	Mitigation Strategies	Time Horizon
Transition Risk: Reputation				
Increased stakeholder concern or negative feedback	Stakeholders have negative feedback on the use of gray hydrogen	If we are not able to produce enough of our own green hydrogen and must continue to rely on other suppliers for our hydrogen demand for longer than anticipated, stakeholders may accuse us of greenwashing, causing negative impacts to our reputation and reliability within the market. This may cause downward pressure on stock prices or a loss of sales.	We have a business plan in place to produce green hydrogen at a scalable level over the next five years and beyond, which will eliminate reliance on any gray hydrogen companies, mitigating potential reputation risks.	Medium

TCFD Risk	Plug Risk	Impact	Mitigation Strategies	Time Horizon
Physical Risk: Acute				
Increased severity of extreme weather events	Increased floods, windstorms, cyclones, wildfires, storm surges, hail, drought, etc.	Hydrogen generation plants require stable electricity to produce high quantities of hydrogen. Impact on electric accessibility in the production cycle could disrupt plant operations.	We understand the impact of extreme weather events on both production and distribution of hydrogen, which has allowed the establishment of highly effective response scenarios that minimize production shutdown. One example of our resilience against extreme weather events occurred at a plant in Tennessee, where lightning struck, burning up an essential motor for production. Due to our pre-planning, the ability to find, install, and begin production at the Tennessee plant occurred in 24 hours, compared with 4-6 weeks for competitors in other energy sectors. There is a focus on business continuity plans for both distribution centers and hydrogen generation plants.	Medium
		Hydrogen storage requires extremely low temperatures to maintain hydrogen in a usable form, and natural disasters present a risk to the storage by compromising the temperature it is able to be kept at.	We have established a preventative system, where every 2 hours computers can monitor fuel cell operations at every plant to keep watch for any issues that could affect production, holding, or distribution of hydrogen. Further, to protect against the risk of power outages, we have invested in high pressure tankers to be on standby at production and hold facilities in case power goes out during an extreme weather event.	
		Increased extreme weather events may impact suppliers' ability to produce and deliver key materials to us, which may impact the ability to continue operations.	As previously mentioned, we purchase many raw materials in advance and store it at local sites to ensure sufficient hydrogen supply, which helps to mitigate against the potential disruption in our supply chain.	
		Natural disasters may impact us by disrupting the ability to deliver products to consumers should transportation routes, which are limited to DOT Hazardous Materials (HAZMAT) regulations, be disrupted.	We have an extensive weather tracking system, where paths of extreme weather events can be predicted, and if a storm is going to affect a customer, we will shift distribution focus to make sure the customer is full on green hydrogen to maintain operations post weather event.	

TCFD Risk	Plug Risk	Impact	Mitigation Strategies	Time Horizon
Physical Risk: Chronic				
Changes in precipitation patterns & extreme variability in weather patterns	Decreased levels of precipitation causing droughts and water shortages, resulting in water consumption regulations	Water is one of our most important resources in the production of hydrogen. A decrease in precipitation creates a risk to our hydrogen generation capacity as electrolysis requires large quantities of water, which may lead to an inability to meet the market demand for hydrogen. Areas of drought may intersect areas with high renewable energy production, so we will need to manage the intersection of drought and renewable energy to operate effectively.	We are planning to invest in more water treatment plants near current and future production facilities to address the risk of water scarcity, by using more recycled water. Our technology team is also devoted to research of technology to produce hydrogen utilizing less water.	Long
	Extreme variability in weather patterns results in disruptions to the global supply chain	Relying on both domestic and international distribution of renewable energy materials, precious metals, and other supply chain needs, extreme variation in current and future weather patterns may significantly impact our supply chain. Extreme weather variability complicates the planning, timing, and execution of the transportation of goods. Supply chain disruption, particularly for a prolonged period of time, may increase our operational costs due to the stoppage of production associated with lack of precious metals.	As a mitigation strategy, we have taken a holistic approach in supply chain management by focusing on regional acquisition and partnerships instead of one source imports. For example, we purchase raw materials in large quantities in advance, partnering with different agencies on regional scales to store the raw materials, to ensure sufficient supply to customers should there be a disruption due to weather or other unforeseen events.	Long
Rising sea levels	Sea level rise impacts operational continuity due to increased flooding	Our production facilities are established in geographical locations across the US that are not expected to be directly impacted by sea level rise. However, our supply chain ports are located along the ocean coasts, where sea level rises could impact cargo ship docking and transportation vehicles needed to produce hydrogen. These supply change obstacles can result in hydrogen production slowdowns, reducing the overall product output and capacity for consumers. However, as sea level rise occurs in gradual increments, the likelihood of sea levels reaching a level that would result in complete supply chain shutdowns is unlikely in the next decade.	No mitigation steps have been deemed necessary at this time.	Long

Climate Opportunity Assessment Results

TCFD Opportunity	Plug Opportunity	Impact	Time Horizon
Resource Efficiency			
Use of more efficient modes of transport	Transition to hydrogen fuel cell trucks for hydrogen distribution	Transitioning our fleet to green hydrogen-fueled trucks can be achieved by further research or by partnering with another company to produce hydrogen-fueled tankers. This will reduce our Scope 1 GHG emissions associated with transportation for the company and potentially reduce costs related to transportation, which in turn could lower our operational costs.	Medium
Use of more efficient production and distribution processes	Develop ways of creating hydrogen that are less energy intensive	By consuming less energy in the green hydrogen production process, we can reduce energy costs. In addition, the cost effectiveness from lower energy needs will reduce the cost to produce green hydrogen, making it easier to scale up production for demand, which could make our products more affordable, attracting more consumers and becoming a more popular energy source, and in turn, increase revenue.	Medium
Use of recycling	Participate in initiatives and internal programs to reduce waste and reuse components in hydrogen technology	By focusing on creating new technology that uses recycled materials, water, and precious metals, we may be able to lower operational costs and mitigate the impact from large increases in the price of resources. Employing end of life cycle treatment options may also decrease our Scope 3 emissions.	Medium
Move to more efficient buildings	Create more efficient net-zero production facility infrastructure across our asset portfolio	Creating new production facilities with the most efficient production technology can reduce overall production costs. Having direct access to new production facilities with the most efficient operations lowers operational costs, but a full cost-benefit analysis needs to be done to understand how these savings compare to the capital required to build new facilities.	Medium
Reduced water usage and consumption	Implement water reduction strategies in green hydrogen production to decrease consumption of water	Reducing the water consumption at production facilities lessens our dependency on resources which decreases operational cost and can mitigate potential reputational concerns with water usage.	Long

TCFD Opportunity	Plug Opportunity	Impact	Time Horizon
Energy Source			
Use of lower emission energy sources	Use renewable energy for all production plants and offices	While RECs are procured to ensure that all energy usage coming from the grid is offset, on-site renewable options for additional energy outside of the PPA market could be used in all locations. This may mitigate against a potential increase in PPA costs and decrease overall operation costs.	Long
Use of supportive policy incentives	Align with domestic and international governmental policies that provide support and incentives to alternative fuel sources	Using newly passed clean hydrogen credits and continuing to advocate for supportive legislation to decrease operating costs could fund capital improvements in infrastructure, create increased overall revenue, and ensure funding to continue to develop technology to help meet market demand.	Medium
Use of new technologies	Implementation of new technologies in facilities and supply chains to increase and improve production and distribution	Our business is centered around using new technology to create a new energy source. We believe there is opportunity for growth with the adoption of new technologies.	Long
Shift toward decentralized energy generation	Implementation of renewable energy technology to minimize power company partnership	Partnering with renewable energy sources and finding third party renewable energy vendors to run our own renewable energy farms would eliminate our reliance on on-grid utilities. A decentralized energy generation may allow us to produce large quantities of green hydrogen at reduced costs (pending a cost-benefit analysis which needs to be performed), which, in turn, could lower our operational costs.	Medium

TCFD Opportunity	Plug Opportunity	Impact	Time Horizon
Products and Services			
Development/ expansion of low emission goods and services	Move towards large scale green hydrogen production and utilization of hydrogen powered vehicles	Our business is centered around the development of a low emission energy source. We believe there is a growth opportunity to expand our business with the development of a low emissions energy source.	Medium
Development of new products or services through R&D and innovation	Develop more green hydrogen for customers to take advantage of low emission energy	Our business is centered around using new technology to create a new energy source. We believe there is a growth opportunity to expand our business with the development of new products or services through R&D and innovation.	Medium
Shift in consumer preferences	Consumer demand for green hydrogen is expected to increase due to preference for clean energy, high fuel/ non-renewable energy prices, and government incentives	We expect our revenues will increase as consumer preferences shift toward renewable energy and more consumers begin using green hydrogen as a fuel source for various products. Consumer demand is expected to accelerate for us if we have a product that is cost-competitive with fossil fuels or if consumers are incentivized by the government to use green products.	Medium

TCFD Opportunity	Plug Opportunity	Impact	Time Horizon
Markets			
Access to new markets	Reach additional consumer demographics by expansion of production plants	Reaching additional consumer demographics through expanded production plants will allow us to expand markets into more remote regions of the world (especially US), which could make our products more accessible and cost effective. This will help us meet new market demands, increase production, and capitalize on the increased revenue to continue to build new facilities and invest in new technology for green hydrogen.	Long
Use of public sector incentives	Work with domestic and international governments and organizations to pass incentives for hydrogen production and consumption	See "Use of supportive policy incentives"	Medium

TCFD Opportunity	Plug Opportunity	Impact	Time Horizon
Resillience			
Participation of renewable energy programs and adoption of energy-efficiency measures	Invest in growing renewable energy technology to eliminate the need for utility company partnerships	See “Shift toward decentralized energy generation”	Medium
Resource substitutes/ diversification	Develop alternative ways to produce hydrogen with minimum reliability on large quantities of precious metals and natural resources	Relying less on third-party suppliers and foreign governments for materials to produce hydrogen will decrease the impact of possible price increases on our business, which could prohibit large quantities and infrastructure of hydrogen production. In addition, by moving away from reliance on others for raw and produced goods, we can continue to operate and produce hydrogen in the event of a global trading shutdown or an import embargo.	Long

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