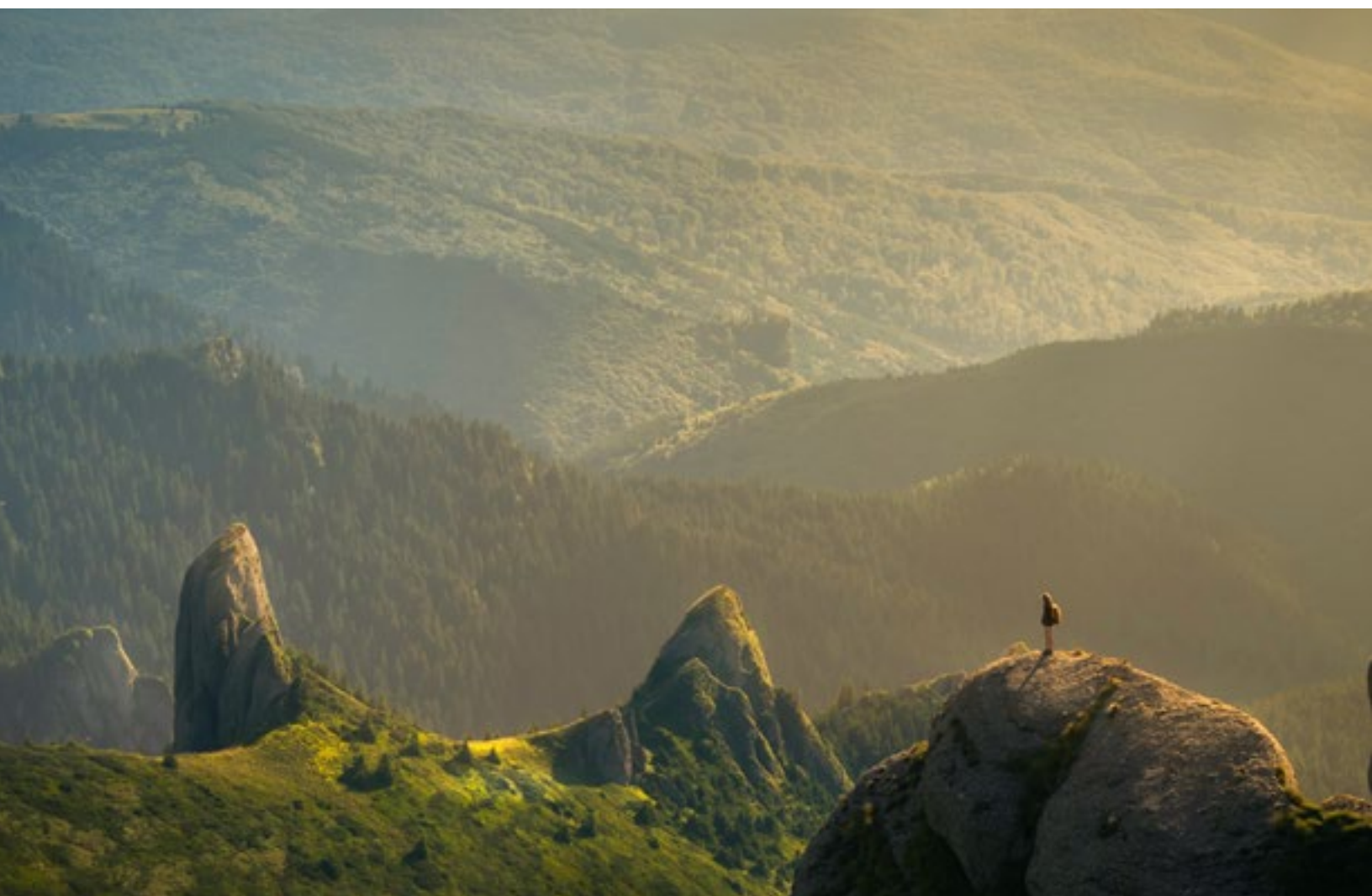




Green Hydrogen at Work™

NASDAQ: PLUG

ESG Report 2022





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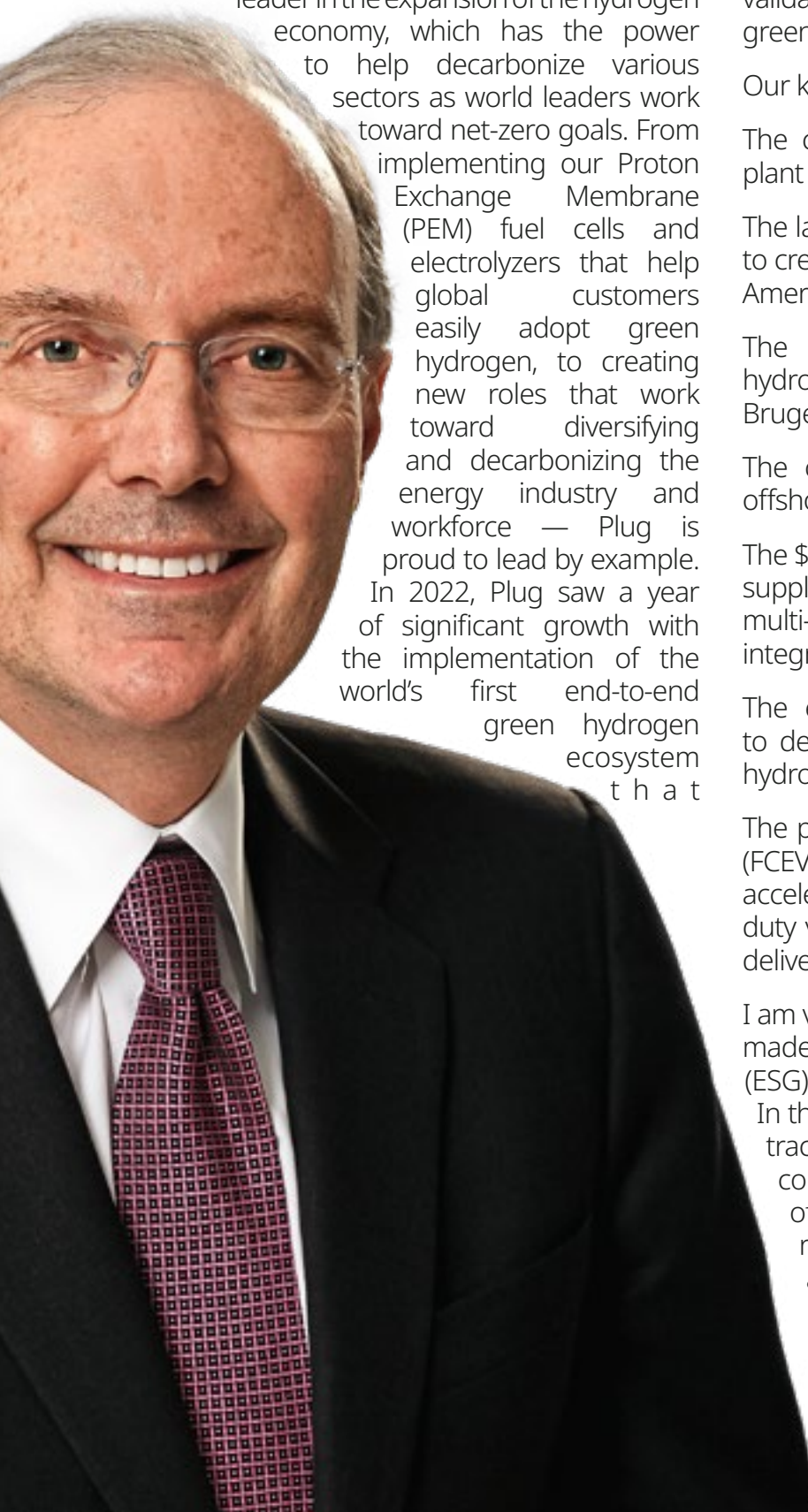
Forward-Looking Statements

All financial numbers in this report are based on U.S. Generally Accepted Accounting Principles. This report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that are subject to risks and uncertainties. These forward-looking statements do not constitute guarantees of future performance. These forward-looking statements are based on current information and expectations, are subject to uncertainties and changes in circumstances, and involve a number of factors that could cause actual results to differ materially from those anticipated

by these forward-looking statements, including risks described in the company's most recent annual report on Form 10-K, and other filings with the Securities and Exchange Commission. 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. 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.



Letter from the CEO

A portrait of the CEO, a middle-aged man with glasses, smiling, wearing a dark suit, white shirt, and a patterned tie. The portrait is positioned on the left side of the page, partially overlapping the text.

For 25 years, Plug's foundation has exemplified responsible environmental and social governance that incorporates thoughtful decision-making within every corner of the company. Plug is proud to be a leader in the expansion of the hydrogen economy, which has the power to help decarbonize various sectors as world leaders work toward net-zero goals. From implementing our Proton Exchange Membrane (PEM) fuel cells and electrolyzers that help global customers easily adopt green hydrogen, to creating new roles that work toward diversifying and decarbonizing the energy industry and workforce — Plug is proud to lead by example. In 2022, Plug saw a year of significant growth with the implementation of the world's first end-to-end green hydrogen ecosystem that

addresses every step of adoption. Pedestal customers expanded their relationships into new products, while multiple industries became believers and adopters of our solutions. This activity further validates the strength of Plug's vertically integrated green hydrogen ecosystem.

Our key operational milestones for 2022 include:

The commissioning of our first green hydrogen plant in Georgia

The launch of a joint venture with Olin Corporation to create a 15-ton-per-day hydrogen plant in North America

The agreement to build a large-scale green hydrogen generation plant at the Port of Antwerp-Bruges, the second largest port in Europe

The commissioning of the world's first floating offshore green hydrogen production site in France

The \$2.1B billion portfolio sale and green hydrogen supply agreement with Amazon, which validates multi-year investments and strategic vertical integration

The expansion of an agreement with Walmart to deliver up to 20 tons per day of liquid green hydrogen to power material handling lift trucks

The planned integration of fuel cell electric vehicle (FCEV) class 8 trucks into our delivery network, which accelerates the use of green hydrogen for heavy duty vehicles while decarbonizing Plug's hydrogen delivery network

I am very excited about the advancements we have made in our environmental, social, and governance (ESG) journey with this being our third ESG Report. In this third ESG report, we have, for the first time, tracked our Scope 1 and 2 emissions, and have completed a qualitative and quantitative analysis of risks and opportunities for our business in regards to climate. Our agreement to be early adopters of FCEV Class 8 vehicles will help us cut Scope 1 emissions as we scale our green hydrogen business.

Internally, we've increased our diverse workforce to more than 3,300 employees

from around the world — providing competitive salaries and benefits while encouraging current employees to continue their education through professional development offerings. We've also hired a Diversity, Equity and Inclusion Director to further ensure all employees are engaged. We understand our products and innovation are better when we combine diverse experiences and thoughts into our business strategy and product development. Our teams also work with students and universities throughout North America and Europe to ensure the next generation of science, technology, engineering, and math (STEM) employees are as diverse as possible.

Plug isn't limited to just providing business leaders with the right solutions to decarbonize their operations. Our team takes every opportunity to educate decision makers — including lawmakers — about the need to make green hydrogen adoption easy and economical. Plug was vocal about its

support for the Inflation Reduction Act and similar initiatives around the world that provide significant momentum to decarbonization initiatives across various technologies including hydrogen. The pace of decarbonization is influenced by public policy and Plug is actively involved in educating policymakers on the benefits and need to ensure clean energy is affordable to ensure a just transition for everyone. We see this type of legislation as a transformational event for the green hydrogen industry, making adoption of hydrogen economical in all end markets.

As we lead the green hydrogen economy, we know our leadership plays a crucial role in the larger energy industry. We've provided a detailed ESG report to remain 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 am committed to continuing the growth of the green hydrogen economy.

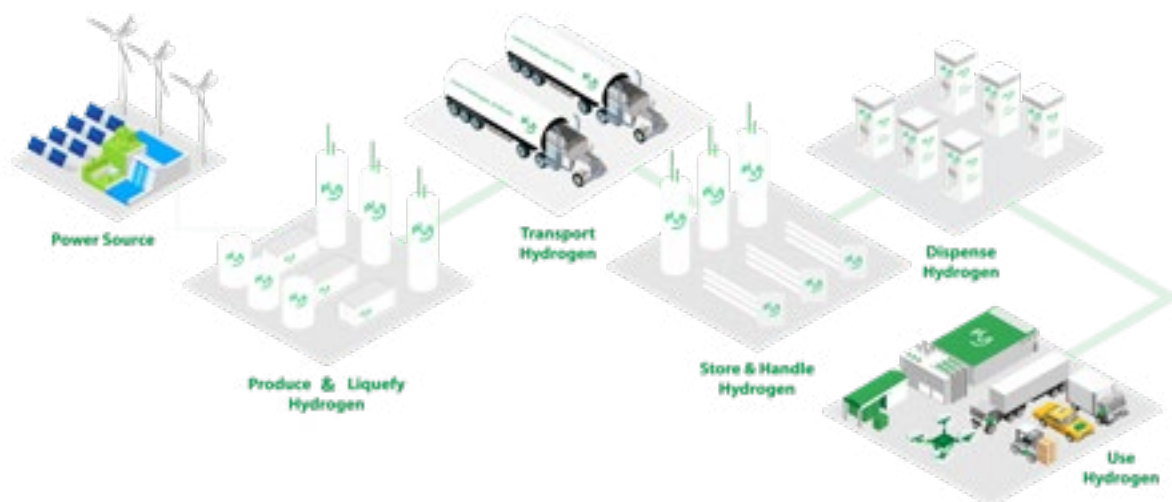
About Us

Plug has differentiated itself as a global leader in turnkey green hydrogen solutions across the value chain, allowing our customers to adopt carbon-free hydrogen solutions while enhancing operational efficiency. Plug's success began by building the first commercially viable markets for hydrogen fuel cells (HFC) for material handling. This business has created a wealth of operating knowledge with data from more than 1 billion hours of operating time for our HFC's in the field, and the largest network (200) of hydrogen refueling stations in North America.

We are innovating at a rapid pace through in-house development, acquisitions, and joint partnerships to allow penetration of a variety of markets and applications. Plug's electrolyzer solutions team has nearly 50 years of experience, and our Rochester gigafactory will be the first-of-its kind to bring PEM electrolyzer production to the gigawatt+ scale. With these electrolyzers and Plug's Cryogenic Solutions, including liquifiers with industry-leading efficiency, Plug will produce green hydrogen to help North American customers decarbonize their operations and meet their operational objectives.

We are a people-first company, building for the fu-

ture on the talent, dedication, and determination of our employees. Headquartered in Latham, N.Y., our innovative products are developed and supported by a global footprint and workforce with research laboratories, service and training centers, manufacturing facilities, and liquid hydrogen plants across North America and Europe. In 2022, we expanded our green hydrogen generation footprint to include locations in Georgia, California, New York, Texas, Louisiana, and Europe, with at least five plants expected to be commissioned by the end of 2023. (Map Below) As of the first quarter of 2023, Plug employs 3,750 people with 3,547 being full time exempt employees, and 203 being temporary employees. Our company's capacity to produce green hydrogen is on pace to expand to 500 tons per day (TPD) of production in North America by 2025 and 1,000 TPD on a global basis by 2028. Our future projects will decrease the cost of green hydrogen significantly, making adoption of hydrogen and HFCs to be easy and economical. Through the development of these breakthrough technologies, we maintain a large portfolio of intellectual property with 102 live and 7 pending patents in the U.S. (as of April 21, 2023).



About This Report

Plug's mission is to make the adoption of hydrogen easy so businesses can decarbonize and displace fossil fuels. This mission is complemented by our goals laid out in this report as we continue to evaluate a variety of topics regarding our business's impact on society and the environment. Plug recognizes the urgent need to transition to a green economy and reduce our reliance on fossil fuels, and the development and implementation of hydrogen fuel cells as a cleaner alternative to traditional fossil fuels continues to contribute to this effort. Several reporting frameworks and standards have been developed with the purpose of enhancing transparency and consistency, and communicating sustainability as it relates to these non-financial disclosures. As we plan new facilities and our global growth plans, the frameworks set forth in this report are guiding us to be conscious of our environmental and societal impacts as we build facilities and teams that have ESG goals ingrained in their design. We recognize that the market is moving toward more standardized reporting and that our stakeholders

are seeking improved comparability and consistency in reporting across countries and industries. In a rapidly evolving ESG landscape, we are dedicated to establishing a systematic and integrated approach to address risks, drive value, and build organizational resilience.

This report covers Plug's ESG-related efforts for the 2022 calendar year. We report in alignment with the standards for the Fuel Cells and Industrial Batteries industry, Task Force on Climate-Related Financial Disclosures (TCFD), and Greenhouse Gas (GHG) Protocol.

Our Approach

Our commitment to sustainability goes hand in hand with our company's mission to displace diesel and other fossil fuels with the accelerated use of green hydrogen as we transition to a global net-zero economy. This mission is deeply rooted in our products, mission, core values, and people, and Plug will remain focused on leading the green hydrogen industry to minimize the impact of climate change across the globe. While leading this energy transition, Plug recognizes the need to create a circular business model that utilizes our Earth's natural resources efficiently. Our research and development (R&D) teams continue to work to lower precious metal loading in our products and have created partnerships to allow more than 90% of precious metals to be recycled and used in new products.

Our end-to-end hydrogen solutions enable our customers to transition to a decarbonized economy while maximizing value for our stakeholders. We know this will only be possible by continuing to prioritize our people and their desire to help fulfill this mission. We hire the most ambitious minds to innovate products and make them more accessible to businesses of all sizes around the globe. Governments around the globe are laser-focused on decarbonization to make a net-zero world a reality, and Plug's sustainable solutions in industries such as transportation (aviation and logistics), energy, power, industrial processes, material handling, and data centers have and will play a major role. By disrupting the fossil fuel industry with hydrogen fuel cells, we are contributing to a more sustainable and resilient energy system. We believe that this transition to a green economy is not only necessary to address the urgent threat of climate change, but also presents significant economic opportunities for our company and the wider industry.

Our ESG efforts at Plug are led by our Director of Investor Relations with the support of multiple teams across the company who contribute the necessary information for this report. Our board's Corporate Governance and Nominating Committee provides oversight for the company's ESG program and oversees our climate risks and opportunities.. Our goal for 2022 was to continue to develop our ESG governance structure to enhance transparency, consistency, and standardization across the business.

In 2022, we conducted a materiality assessment with the assistance of PricewaterhouseCoopers, a Big 4 accounting firm, to gain an understanding of which ESG topics were most relevant for us and our stakeholders. To gather this data, we engaged priority

stakeholder groups to gain an understanding of the topics that are of greatest importance for Plug, which uncovered the following topics for focus:

Managing our environmental impacts:

- Energy management
- Development of low/no carbon solutions
- Product end of life management
- Product efficiency

Social:

- Employee health and safety
- Diversity & inclusion
- Community investment

Governance:

- Supply chain management
- Board and executive compensation management

2022 ESG Achievements / Advancements

- Scope 1 and Scope 2 emissions: Plug developed a GHG Inventory in line with GHG Protocol and set a baseline for 2022 emissions. While we are growing rapidly, a better understanding of our energy consumption and sources of emissions will better inform us of our impact on the environment and aid us in making strategic decisions in our transition to a low-carbon economy.
- Scope 2 emissions include all purchased electricity, and our GHG Inventory allows us to measure our electricity usage data so we can better manage it.
- In addition to developing a GHG Inventory, Plug has also started collecting water usage data. 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, it's important to note that water is consumed in the production of hydrogen through electrolysis.

We continue to mature our data collection and reporting processes, and we are learning throughout our journey. As our third year of ESG reporting concludes, we endeavor to continuously improve to meet and exceed the expectations of our stakeholders, and the public at-large, for transparent disclosure. Over the course of the next year, we expect to implement additional technology solutions and expand internal programs and resources that will advance our ESG efforts. We look forward to providing an update on those efforts in our next report.

An aerial photograph showing a two-lane asphalt road curving from the bottom left towards the top right. To the left of the road is a dense forest of green trees. To the right of the road is a body of water with a deep blue-green hue. A small blue car is visible on the road, moving away from the viewer. The background is a solid dark blue gradient.

Our Commitments

By adding ESG values into Plug's business model, we look to achieve reduced costs, improve worker's productivity, mitigate risks potential, 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. Our mission is to build a green hydrogen economy with solutions that lower carbon footprints, increase productivity, and lower operating costs. This mission is powered by our employees, customers, community partners, suppliers, business partners, and investors. Our commitment to the environment is reflected, not only through the impacts of our products in operation, but also through the impacts of our manufacturing processes and our products' end-to-end life cycle. We are committed to resource efficiency, responsible design, materials management, and recycling.

Innovation

"The promise of green hydrogen is here today – driven by Plug's innovation and the vision of our customers." – Andy Marsh, CEO

Plug's technological advancements aim to cause positive disruptions to business. We are enabling the transition to a green hydrogen economy by offering turnkey solutions that increase productivity while lowering emissions in sectors that have been traditionally hard to decarbonize. We aim to displace the use of diesel and other fossil fuels in power, mobility, industrial applications, and more. Through our work on hydrogen fuel cells, we are proud to be a part of the transition to a cleaner and more sustainable future. We remain committed to

driving innovation and accelerating the adoption of clean energy technologies to create a more sustainable world for future generations. We are committed to building out a first-of-a-kind green hydrogen generation network targeting 500 tons per day (TPD) of green hydrogen production in North America by 2025, and 1,000 TPD globally by 2028. This is important to our company, customers, and communities as we work together to reduce carbon emissions.

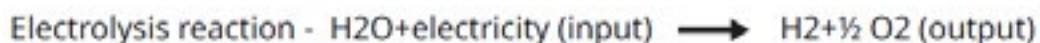
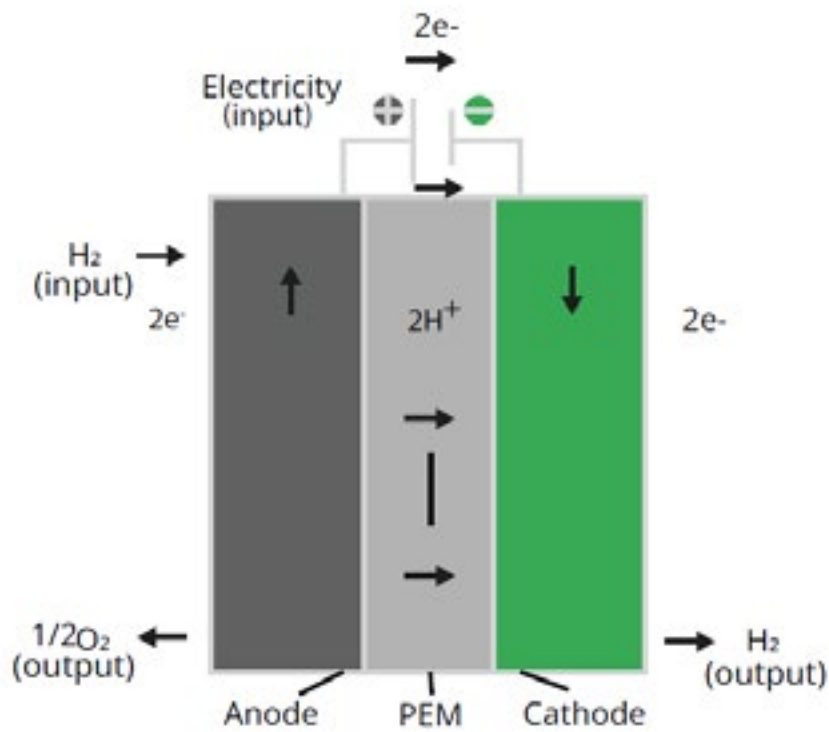


Our PEM Technology

Our hydrogen fuel cells and hydrogen electrolyzers utilize transformative PEM technology to displace internal combustion engines and generate hydrogen. 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 a conventional engine with our fuel cell, like how an electric vehicle replaces an internal combustion engine with a battery. Hydrogen fuel cell technology offers the advantages of a clean and reliable alternative energy source to customers in three markets with large-scale opportunities: power, product, and mobility. Developed by one of the most experienced teams in the world in PEM electrolysis, Plug's electrolyzers generate clean

hydrogen with zero CO₂ emissions 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, while reducing the use of precious metals, allowing for continued improvement in capital costs and lower environmental impacts.

PEM Electrolysis Cell



Governance - Board of Directors

Plug's business is conducted under the oversight of our Board of Directors (the Board of Directors or Board). The primary responsibility of the Board is to oversee and review senior management's business and operations performance. The number of directors of the Company is currently fixed at ten (10) and the Board currently consists of ten (10) members. The Board is divided into three (3) classes with four (4) directors in Class I, three (3) directors in Class II, and three (3) 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 2022, Plug added Jean A. Bua and Kavita Mahtani who bring leadership in key areas, such as mergers and acquisitions strategy implementation, financial planning and analysis, global financial operations, and compliance. They will join Plug's Audit Committee with Ms. Bua serving as the committee chair.

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, and our Board of Directors is currently comprised of 30% women. 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 Chief Executive Officer 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 Chief Executive Officer 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 understands that there are differing views on the most appropriate Board leadership structure depending on a company's specific characteristics and circumstances. 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 Chief Executive Officer positions are combined promptly upon the Board's decision.

Committees of Board of Directors

The Board has established five (5) 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, 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; and has responsibility for assessment of executive officers and management team.
- 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 plays a central role in overseeing and evaluating risk-management procedures and protocols whereas management is responsible for identifying and managing exposure to risk on a day-to-day basis in accordance with the Board's Delegation of Authority Policy. The Board receives periodic reports from each of the three (3) standing committees and any ad-hoc committees that may be established from time to time to address discreet matters, as well as regular reports from senior management on areas of material risk to the Company, including operational, financial, reputational, legal, regulatory, cybersecurity, and strategic risks. 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 our 2022 Proxy Statement on the Investor Relations section of our website: [Click here for the 2022 proxy statement](#)

Our governance documents, Board committee charters, and Code of Conduct can be found here: [Governance Documents](#)

Cultural Competencies and Code of Conduct

Plug is a loyal, ethical, people-first company for employees, customers, shareholders, and the community — working together to build the green hydrogen economy. We are committed to excellence, providing our customers with the ability to seamlessly adopt end-to-end fuel cell and hydrogen solutions to power, fuel, and provide service for their application needs, regardless of market.

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 as may be updated from time to time and to act in a manner compliant with our policy expectations.

Plug's Code of Conduct is framed around our established cultural values: innovate, communicate, act humble but gutsy, collaborate, respect, and be true. These are intended to help lead our business to prosperity, but more importantly, to ensure pride in the means of attaining success.

Innovate

Create new ideas, approaches and technologies that change the world. Be insatiably curious, confident - learn & 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.

Humble but Gutsy

Embrace new opportunities with a fearless, action-oriented perspective. Learn and iterate. Truly game-changing ideas are rarely safe.

Collaborate

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

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.

To read the full Code of Conduct, please see the Investor Relations (Governance) section of our website. <https://www.ir.plugpower.com/esg/default.aspx> Further business ethics and compliance policies are detailed in the Appendix of this report.

Our Strategy - Green Hydrogen

In 2022, we made significant progress toward our green hydrogen generation targets and projected capacity, with the announcement of new developments and product innovation, such as integration of the Frames Group team bolstering our engineering capabilities, and our partnership with McDermott on a 1GW green hydrogen plant concept, and a JV with Olin Corporation for a 15 TPD plant in Louisiana, with the opportunity for further expansion. Through our suite of hydrogen generation, transportation and fuel cell power for a growing number of applications, we provide a comprehensive end-to-end green hydrogen energy solution. Our vertical integration strategy positions Plug as the global leader in generation, liquefaction, distribution and dispensing of hydrogen. Joint ventures, and acquisitions have shaped our vertical integration strategy by enabling us to offer end-to-end hydrogen solutions. Our capacity to produce hydrogen is on pace to reach our targets of 500 TPD by 2025 in North America and 1,000 TPD globally by 2028. We also aspire to make green hydrogen easy, economical, and ubiquitous to accelerate the transition from fossil fuels. While our first generation of green hydrogen plants will produce at an average cost of ~\$4 per kilogram, we project that due to the advancements of our electrolyzer technology and build-out of our hydrogen network across North America, that cost will trend down significantly over the course of the decade. This includes lowering per MW capital costs for electrolyzers by over 50%, using 70% less precious metals, scaling plants to 1GW or more to lower per-kg capital costs, and integration of mega projects and hubs with midstream to lower transport costs. Our cost reduction road map for green hydrogen generation will not only allow the world to significantly reduce its carbon footprint by replacing fossil fuels, but it will allow for energy independence from countries who are dependent on foreign-supplied fossil fuels. Plug is working very closely with our partners globally to accelerate our efforts in this energy transition in the face of the tragic events we have seen unfold in Ukraine.

We continue to be a leader in sustainable innovation, with planned green hydrogen plants across North America utilizing various renewable sources. This includes hydro in New York, wind in Texas, and solar in California. We continue to partner with local towns,

which includes building tertiary water treatment plants to produce recycled water in California and Texas to feed our plants while ensuring a secure water supply for our surrounding communities. Plug will also look to use high efficiency reverse-osmosis systems that can concentrate impurities in water which should result in much lower volumes of rejected water (5% vs 25% of incoming volume). In these ways, Plug will ensure that the water requirements for our green hydrogen network does not compete with existing water users, especially agriculture. Throughout recent years, acquisitions have enabled us to grow from a fuel cell company to a green hydrogen provider that addresses the progression of operations. In 2020, we acquired United Hydrogen, one of the largest privately held producers of hydrogen at the time, and Giner ELX, a global electrolyzer developer with more than four decades of experience. These acquisitions are leading contributors to our increased capacity projections and will enable us to significantly scale up our production of green hydrogen. In 2021, we acquired Frames Group, which adds engineering, process, and systems integration expertise to Plug. Finally, our acquisitions of Applied Cryo Technologies in 2021 and Joule Processing in 2022 adds significant capabilities, expertise, and technologies, including efficient liquefaction, liquid hydrogen delivery network and fleet, liquid hydrogen storage, and hydrogen mobility fueling, which will enable the company to expand its green hydrogen ecosystem and lower the cost of hydrogen infrastructure and logistics networks.

In 2022, we commissioned our first green hydrogen plant in Georgia using our Plug electrolyzer. The process of commissioning Georgia and continued progress in New York and Texas has given us valuable learnings on the electric infrastructure and balance of plant needs, while engineering cooperation between our new teammates from recent acquisitions has yielded continuous improvements to plant design and capital costs as we move forward in our capacity buildout. Our green hydrogen production is projected to scale to 200 TPD commissioned across North America by the end of 2023. We continued to have constructive dialogue with both the public and private sectors. The Inflation Reduction Act, RePowerEU and other initiatives to both decarbonize and promote domestic energy production has grown

our electrolyzer sales funnel dramatically, especially for green ammonia / fertilizer production, while offering robust economic benefits to end-users looking to decarbonize by shifting to zero-carbon green hydrogen fuel and fuel cell applications.

We continue to make significant progress in Europe. Our Port of Antwerp plant will produce up to 35 TPD of liquid and gaseous green hydrogen by 2025. The Port of Antwerp is Europe's second-largest industrial port with plans to become a major hydrogen hub. We already have inbound interest for more than six times the capacity of the plant before having broken ground, highlighting the demand in the European market for green hydrogen and fuel cell applications to decarbonize transportation and heavy industries. Our JV with Acciona is evaluating sites across Spain and Portugal to begin construction of green hydrogen plants. These initiatives will increase availability of hydrogen to support the expansion of our fuel cell products and Hyvia vehicles in the EU. Hyvia, our joint venture with Renault, is making tremendous strides in the development of hydrogen fuel cell passenger vans and commercial vehicles. This includes successful pilot programs with more than 15 companies in Europe, and plans for 800 vehicles on the road in the EU in 2023.

Although hydrogen is a low-carbon energy source, transportation of hydrogen through use of conventional internal combustion engine trucks contributes to our greenhouse gas emissions and we are taking steps to reduce and, eventually, eliminate these sources of emissions. This initiative is an important step forward in making our value chain cleaner by addressing the transportation of hydrogen tanks from suppliers to our facilities.

Plug's clean energy products deliver a significant value proposition to our customers and the environment, including zero-emission power, robust reliability, improved efficiency, scalability, and lower operational costs. The only byproducts of hydrogen fuel cells are heat and water. They do not produce

harmful emissions, which eliminates the costs associated with handling strong toxic materials like battery acid or diesel fuel. Our technology has proven it can withstand tough conditions including freezing temperatures as low as -40 degrees Celsius, and extreme weather conditions such as hurricanes, deserts, and winter storms. HFCs are also 40-60% energy efficient, according to the U.S. Department of Energy¹, compared to 20% in a typical internal combustion engine car. Our modular products allow for greater reliability and easier serviceability which enables them to operate at scale. Fuel cells save money compared to batteries and internal combustion generators. Faster fueling along with fewer maintenance and site visits lead to reduced downtime, which can result in 84% lower operational costs compared to combustion generators for stationary power. This provides a critical benefit of fuel cell longevity, which is especially beneficial for industries such as trucking.





Product & Turnkey Solutions



Product and Turnkey Solutions

We offer an array of green hydrogen solutions that address every step of operations, including:

Green hydrogen production through electrolysis:

Plug electrolyzers use technology called proton exchange membrane (PEM) water electrolysis that can be paired with renewable and intermittent sources of energy such as solar, wind, and hydro-electric power to produce green hydrogen at a low cost to customers. Large markets for green hydrogen include companies producing steel, fertilizer, oil and gas, and chemicals like ammonia and methanol, fuel for fuel cell vehicles like buses and long-haul trucks, and power generation. Expertise from the Frames Group acquisition has allowed the development of three distinct products for our electrolyzer: A 1MW and 5MW solution that include the entire balance of plant needed to produce green hydrogen allowing a turnkey solution for hydrogen production at customer sites, as well as a 10MW array that can be used as the building block of larger plants with orders for up to 1GW already placed.

Hydrogen liquefaction:

Plug liquifies hydrogen for transportation at atmospheric pressure and temperatures below -400°F 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. Continued work with the team from our Joule acquisition will allow Plug's green hydrogen plants to internally source liquifiers with industry leading efficiency. The 30 TPD liquifier Plug has developed has already received multiple orders.

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 Cryo 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 comprised of a bulk liquid storage that can hold between 15,000 to 18,000 gallons of liquid hydrogen at -423°F, compressors and liquid pumps to compress to 7,000 psi and gaseous storage tubes that can hold up to 120 kg of gaseous hydrogen — enabling onsite storage at customer locations for a variety of fuel cell applications.



Risk Management



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 identifies key threats, existing mitigations, and future action items. The results of this risk assessment are reported to the Board of Directors. Plug also goes through an annual strategy refresh to clearly identify and articulate strategic goals and targets in preparation for the annual planning and budgeting process, as well as the annual Plug Symposium, which is a public discussion

of key accomplishments and strategic direction across Plug's business lines. Senior management has mechanisms supporting formalized governance processes, including weekly and monthly meetings to discuss financial results, growth targets, and other key performance indicators, as well as discuss strategy and gain consensus for key decisions. Plug also has regular reviews of project status including timeline and cost for expansion projects and new products with leadership, and ongoing monitoring such as tracking failure rates and incidents.

Climate Risk and Opportunity Assessment

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. In 2022, we completed our first qualitative climate risk and opportunity assessment. The assessment was aligned to the TCFD risk taxonomy to provide a complete 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. We define short-term as 0-1 year, medium-term as 2-5 years, and long-term as 5-10 years. Our results also highlight the significant growth potential of our product lines, which we believe are positioned to not only lead the transition to a low-carbon economy, but also to reduce physical risks. Climate Risk Assessment and Opportunity Results are detailed in the appendix.

Quantitative Physical Risk Scenario Analysis

To better understand the resilience of our business, we leverage a consultant to assist us in performing scenario analysis to analyze how physical climate risk may impact our assets in different future states. Current and planned future sites were evaluated on their potential exposure to acute physical climate risks including drought, flood, hail, hurricane, wildfire, and wind gust. These perils were chosen based on their likelihood to impact our business operations in regards to producing hydrogen and renewable energy.

We chose to look at risk scores in two scenarios derived from the Intergovernmental Panel on Climate Change's (IPCC's) Shared Socioeconomic Pathways (SSPs). The scenarios are described below:

- SSP 1-2.6 ("Taking the Green Road") – This is an optimistic pathway, where emissions begin declining immediately and go to zero by 2100. In this scenario, global temperature rise is likely to be below 2°C by 2100.

- SSP 5-8.5 ("Fossil-fueled Development") – In this pathway, there are high challenges to mitigations and low challenges to adaptation, where emissions continue to rise throughout the 21st century. In this scenario, global surface temperatures are likely to be 4°C by 2100.

Each peril and climate change scenario were examined over the time horizon range of 2030-2050. Risk scores from 0-100 were assigned based on climate science of historical and projected events that vary for each peril. The graphics below show the results of the locations analyzed, with different colored dots indicating the peril with the highest risk score in that location. The line graphs also show how the average risk scores of all locations are expected to change over time.

Climate Transition Risk Analysis

Through our qualitative climate risk assessment, we determined that increased prices in raw materials, a TCFD market transition risk, was a risk to our business. To analyze this potential climate transition risk, we performed a sensitivity modeling exercise on our future cost of purchasing green energy through the market in the form of Renewable Energy Certificates (RECs) and Power Purchase Agreements (PPAs). This provides us with overall cost planning of purchasing green energy that will come from the electricity grid rather than direct connection to our renewable energy sites. For this modeling exercise, we assume that future prices of RECs will increase based on demand for renewable energy due to many emissions reduction targets being made in the market. We modeled our sensitivity to this potential change in price by multiplying our expected amount of RECs needed with a future REC price.





Environment



Climate Transition Risk Analysis

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Environment

Greenhouse Gas Emissions, Electricity Usage, and Water Consumption

We are excited to share that we have disclosed our environmental impact and action as part of our commitment to sustainability. We have 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.

Reporting Year	Water Withdrawn (U.S. Gallons)	Scope 1 GHG Emissions (MTCO2e)	Scope 2 GHG Emissions (MTCO2e)	Electricity Usage (MWh)
2022	10,376,213	16,910	20,141	60,277

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. Plug’s water metering efforts are still 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, it’s important to note that 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, it’s essential to implement sustainable water management practices and promote water conservation efforts in the hydrogen production process. We own water treatment plants to utilize recycled water in California for green hydrogen production. In addition, 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. 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 utilizing renewable energy sources such as wind and solar to produce the electricity used in electrolysis. By producing hydrogen using renewable energy sources, we are creating 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.

Environmental Benefits of Green Hydrogen

We believe green hydrogen will play a significant role in lowering greenhouse gas emissions and help adapters reach net zero goals. By achieving our goals of commissioning 500 TPD of green hydrogen in 2025 and 1,000 TPD of green hydrogen in 2028, we will be offsetting substantial greenhouse gas emissions versus fossil fuel alternatives. The production of 500 TPD of green hydrogen will replace 500,000 gallons of diesel daily with 1.62 million metric tons of carbon emissions avoided per year. This is equivalent to

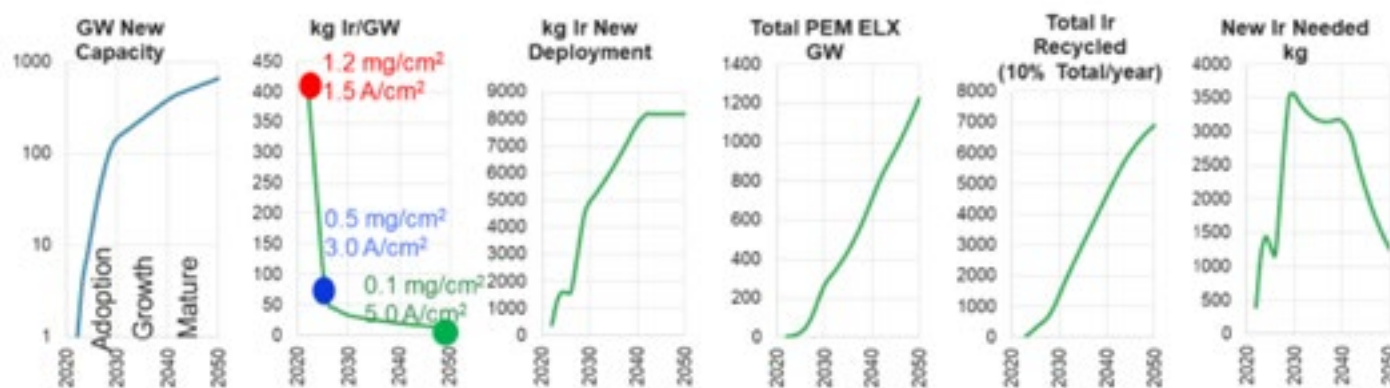
carbon emissions from 200,000 households or 1.79 million tons of coal burned. The production of 1,000 TPD of green hydrogen will replace 1 million gallons of diesel daily, eliminating 3.25 million metric tons of carbon emissions per year. This is equivalent to carbon emissions from 400,000 households or 3.6 million tons of coal burned.

Product Stewardship & Supply Chain Circularity

At Plug, we have 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: The first channel is our vertical supply chain through our fuel cell and electrolyzer solutions and the second is our third-party supply chain, where we deliver goods and services by outside vendors. The vertically integrated GenKey solution ties together all critical elements to power, fuel, and provide service to customers. We are now leveraging 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. We are continuing to improve on our reporting process to help us execute on our commitments to the development of the green hydrogen economy. Plug is also excited to expand our partnership with Johnson Matthey (JM), a global leader in sustainable technologies, to focus on the development, validation and incorporation of JM's advanced materials in Plug's leading electrolyzer systems. This includes development of a closed-loop recycling system for the critical platinum group metals (PGM) used as catalysts in our PEM electrolyzers. JM has a proven track record and deep expertise in developing innovative, high-performance coating materials, Catalyst coated membranes (CCM) technology and

as the world's largest secondary refiner of PGM is perfectly placed to drive the creation of closed-loop recycling systems within the green hydrogen supply chain. Plug continues to be sharply focused on our use and recycling of PGMs and have language in our contracts that enable us to facilitate the circular life of our products. The expanded partnership will see Plug and JM co-invest in what is expected to be the largest (5GW scaling to 10GW over time) CCM manufacturing facility in the world. The facility will be built in the United States and likely begin production in 2025. This partnership continues Plug's vertical integration strategy to drive scale for PEM products, lowering per unit costs, and improve access to raw materials

Concurrently, our engineering team is working diligently on our 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. We expect within the stack that iridium loading will go from 1.2mg/cm² to 0.5 mg/cm². By recycling our electrolyzer stacks as the green hydrogen market grows, while continuously lowering iridium loading, we see demand for new iridium supply peaking in 2030, and declining rapidly in the 2040s. The peak also represents iridium usage that is lower than PEM electrolyzers and spark plugs combined in 2022.



We have continued our work with Elemet, a company that resells recycled and reused materials to continue to be used in the economy. Plug has contracted with Elemet to continue to bolster the circular nature of our products' raw materials and key components. These materials are sold as scrap once the components have been converted into a clean scrap material following the Institute of Scrap Recycling Industries (ISRI) guidelines after manual deconstruction, mechanical size reduction such as shredding, milling, granulation, and commodity segregation, or accumulation through magnetic, air, vibratory, screening, or manual separation.

We are currently working to better understand the environmental impacts of our products' manufacturing processes and life cycles. As part of this initiative, we began a project to quantify our carbon footprint for each of our products. We successfully completed quantifying the Carbon Intensity Life Cycle Assessment for our material handling fuel cells, and established a critical baseline that allows us to improve our future products. Assessing 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. We plan to continue this important work in 2023 by quantifying the carbon footprint of additional products.

We also monitor 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:

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.

Component reclamation:

We reclaim used fuel cell components.

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

Refurbish and recycle: We recycle or resell the products once deconstructed.

Finally, to manage the environmental and social elements of our supply chain, We are also leveraging a software called EcoVadis. EcoVadis is a provider of business sustainability ratings, creating a global network of more than 75,000 rated companies. This system has enhanced our visibility into the environmental and societal impacts of our vendors across critical themes: environment, labor and human rights, ethics, and sustainable procurement. EcoVadis looks within organizations to assess risks including critical materials, conflict materials, ethical business practices, and environmental impacts. Using this tool, we have created scorecards to assess and engage with our suppliers.

Use of Green Building Technology

As we continue to expand, our top priorities are maintaining biodiversity and employing green building technologies in new facilities. Plug places importance on selecting new facility locations that minimize our footprint and allow our employees to appreciate our natural surroundings, and We are evaluating the use of Taskforce on Nature-related Financial Disclosures (TNFD) standards when evaluating new sites. Areas of focus for our new spaces include using regenerative load banks which help eliminate coolant loops and reduce energy use. We are also focused on minimizing the disturbance of wetlands, and the addition of recreational areas such as mountain bike trails to optimize the outdoor space. Plug is also exploring opportunities to obtain LEED Operations and Maintenance (O+M) Certifications for

existing buildings as well as opportunities to obtain LEED certifications for new buildings in the future. Plug is committed to a sustainable energy supply and recognizes the role we must play in advancing toward a clean energy future. We will continue to develop our products and processes to minimize both our own and our customer's environmental impact to progress toward the green hydrogen economy we envision around the world.

Cybersecurity

We are focused on managing cybersecurity risks as our business continues to grow. This requires constant monitoring and protection from potential cyber threats. Our cybersecurity strategy includes preventative measures, proactive monitoring, alerting, employee education, and business continuity planning.

The Director of IT is responsible for leading the company's cybersecurity program, and Plug's Board of Directors is updated at least twice annually on the company's cybersecurity efforts. We have established our cybersecurity program in alignment with the National Institute of Standards and Technology (NIST) Cybersecurity Framework.

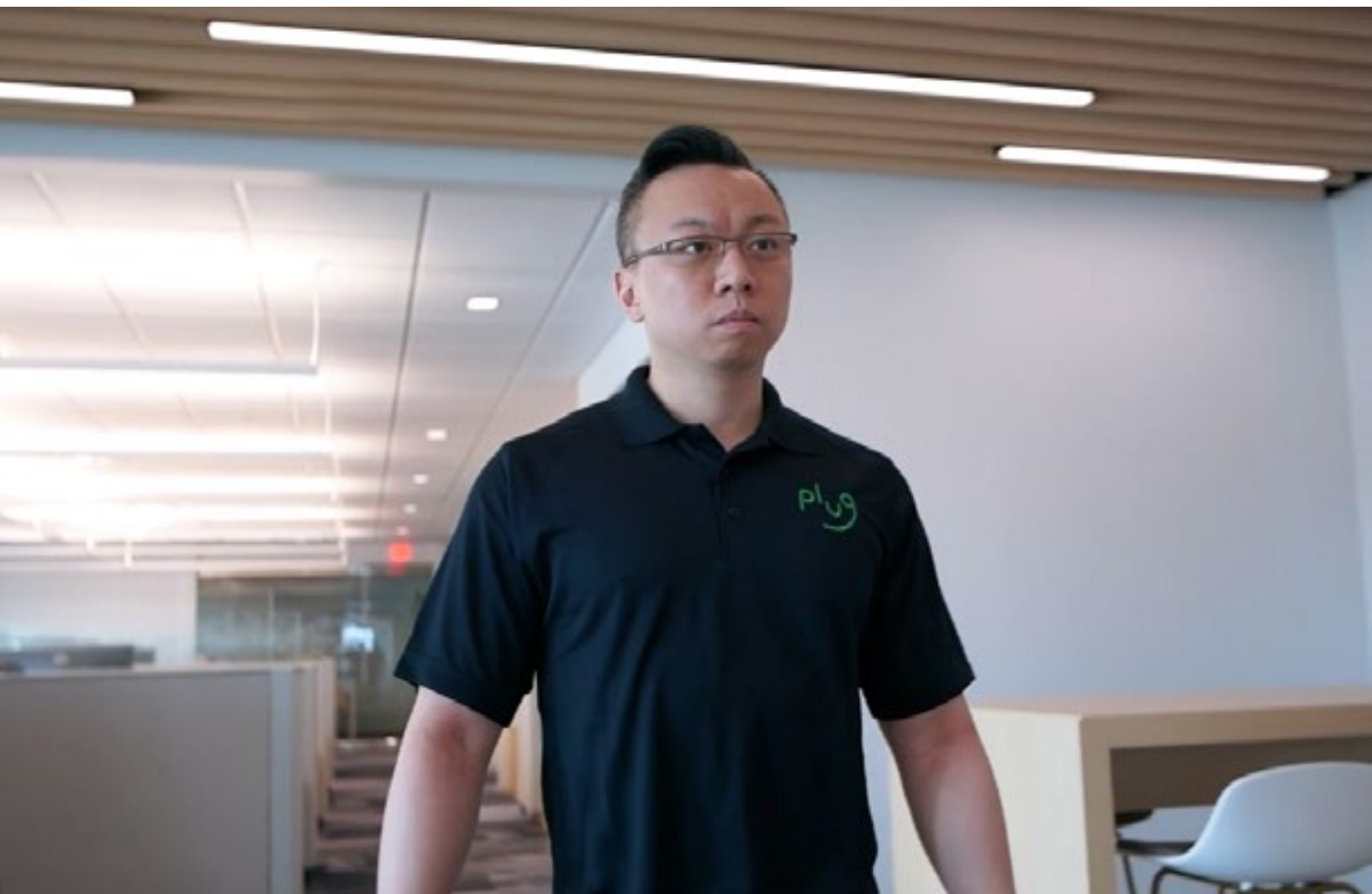
We utilize tools and technologies such as virtual private networks (VPN), multi-factor authentication (MFA), and complex passwords and further subscribe to the principle of least privilege in support of our Identity and Access Management strategy.

Additionally, we monitor our IT environment through our Network Operations Center, conduct purposeful network health and instance verification tests (IVT), administer a strict and continuous patching regimen, and leverage best-in-class tools to prevent and/or detect potential vulnerabilities. To further ensure we are proactively addressing emerging risks, we contract a leading third-party cybersecurity firm to periodically assess our IT environment and cybersecurity posture.

Plug's exempt and nonexempt employees are required to perform annual security awareness training which covers topics such as access management, phishing and other areas that affect day-to-day security. New employees also receive training to educate them on their role in protecting Plug's systems and data. Furthermore, business continuity and disaster recovery plans have been developed and are tested on a routine basis.



People - Taking Care of Our Employees



People - Taking Care of Our Employees

Connecting Employees and Plug's Mission

Plug's mission revolves around doing something that has never been done before: Displacing fossil fuels with zero emission green hydrogen to help the world achieve the goals set to limit warming to 1.5 degrees celsius. Our employees see our mission to be a leader in decarbonization and promise a better future for their children and grandchildren. The following links highlight how our employees feel about "Green Hydrogen at Work" and how that is connected to our values, purpose, and future goals.

The following links highlight how our employees feel about "Green Hydrogen at Work" and how that is connected to our values, purpose, and future goals.



Green Hydrogen at Work:
Values



Green Hydrogen at Work:
Purpose



Green hydrogen at Work:
The Future of Green Hydrogen

Diversity, Equity, and Inclusion

Plug is here to change the world, and it's our people that drive change to make the world a better place. We are powered by the collective differences of our employees, customers, and stakeholders, and we value different perspectives to solve complex problems and bring innovative solutions.

At Plug, our people come first. We promise to listen and hear inspiration from around the globe, championing inclusivity, respecting each other, and celebrating our differences as we build an environment in which we are all proud to be a part. We are committed to the principles of affirmative action and equal employment opportunity (EEO) for all. We seek to maintain a healthy,

safe, and productive workplace free from discrimination or harassment. Plug's employment practices go beyond just compliance. We do not discriminate in employment practices due to an applicant's race, color, creed, religion, sex, sexual orientation, gender identity or expression, transgender status, age, national origin, disability status, criminal record, or veteran status. Our CEO, Andy Marsh, together with the leadership team, and our DEI Director drive 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. At Plug, we're humble but gutsy – we are listeners and learners whose strength comes from our intellectual and social diversity. 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 the investment in our employees. We pledge 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 are on a journey 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. Perspectives from the collective whole make us better, as we know that we are all part of something bigger than ourselves.

Together, we will change the world for the good of the planet and future generations. To support and shape our DEI strategy, we track diversity categories within a dashboard in our human capital software. We currently track and report on the race, age group, and gender of our employees. We believe that our DEI strategy, like any other, should be rooted in data and analytics to measure progress and foster accountability. Our employee turnover rate in 2022 for regular employees is 20.8%.

Human Resources (HR) prepares the upcoming year's Affirmative Action Plan and corresponding goals, which are presented to Plug's leadership. This process includes collecting updated data and any required 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.

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/esg/default.aspx>

Diversity, Equity and Inclusion Policy

Fair Treatment Policies including but not limited to:

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

These policies 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 Fair Treatment Policy for our employees and business partners. For more details on this and our human rights commitments, see the Governance Policies - Business Ethics & Compliance section of this report.

We regularly analyze incumbency versus availability data. 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 15,000 diverse community partners that can support our inclusive culture and trust-building including with 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. We continue to work with veteran recruitment firms like Orion and are proud to have 277 veterans of the U.S. Armed Services working for Plug, representing an increase of 18.3% from 2021. Additionally, after collecting insights and input from our employees, we will be looking to establish a Women's Affinity group this year to bring together and empower women in the workplace.

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), and disability coverage. Additionally, employees are offered a vacation and holiday package, a wellness program to promote active and healthy lifestyles, an employee referral program, educational assistance, and volunteer time. In 2022, we also launched a paid parental leave to aid in bonding time for new parents. 92.9% of our employees participate in our comprehensive 401(k) package that includes a 401(k)-retirement savings plan, which 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. Our portfolio reflects our values with increased priority given to socially responsible investing—the plan's diversified investment options include two socially responsible funds.

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.

Employees enrolled in our medical insurance plan can earn a gift card up to \$500 by completing qualifying wellness activities. These activities span fitness challenges and preventative care measures with incentives along the way. Additionally, our Fitness Reimbursement Program provides up to \$1,200 per year to accommodate employees' wellness activities.

Even further, Plug management continues to maintain regular and meaningful full-company communication through all-employee meetings, where CEO Andy Marsh, and his extended team, address relevant safety and business topics. This began as a response to COVID-19 remote-working mandates and continues to allow our global employees the opportunity to better understand organizational successes, growth, and change. There is always a Q&A at the end of every meeting where employees are encouraged to ask questions regarding any topic. This meeting is a notable example of our culture given the transparency and open communication.

Employee Engagement

We believe that transparency plays a key role in engaging and energizing our workforce. Our CEO conducts weekly town hall meetings with our employees to share updates on the company's initiatives and answer any questions. Additionally, our employees meet with their leaders at least quarterly to discuss their job performance and contribution to strategic business objectives, as well as their professional development goals. Where possible, we have adopted remote and hybrid work arrangements which offer many benefits for our employees and company, including cost savings and flexibility.

We conduct regular employee engagement surveys to measure progress and satisfaction with a range of

initiatives. In our most recent survey (August 2022), Plug achieved a 78 Engagement Index – employees indicated they would recommend Plug as a great place to work and they are happy working at Plug. The insights from the most recent survey allowed us to review employee feedback at each function and Business Unit level to drive impactful action. Plug's top strengths are prospects, purpose, and authenticity. Employees 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 reduce injuries. We demonstrate our commitment to safety while leading our organization through the global pandemic, effectively deploying enhanced safety measures and encouraging and making available vaccinations. In 2022, Plug's Total Recordable Incident Rate (TRIR) for work-related injuries or illnesses was 4.1[CM1] and the fatality rate was zero.

In 2022, Plug hired a Vice President of Environmental Health & Safety (EHS) and expanded our global EHS organization by hiring a Senior Director of Sustainability & Environment, a Senior Director of EHS – Europe, a Director of EHS - North America and an Occupational Health Nurse. Having a qualified EHS Leadership team in place along with other experienced EHS professionals enables Plug to drive a culture of safety excellence and create an environment where our team is accountable for their own safety and the safety of others.

While it is important to have EHS leadership and technical support, leaders are critical to support an engaged safety culture. Because of that, all managers are expected to regularly engage with their employees on proper work practices, monthly safety training, and investigation of safety events.

Here are some ways our various locations have helped us achieve a safer work environment.

North America

Latham, N.Y. – We have an onsite nurse who provides medical case management, wellness campaigns and acts as a trusted resource. Currently licensed in 27 states with a goal to be licensed in all 48 contiguous U.S. states by Q1 2023, the nurse has had more than 100 employees visit the clinic for work related and personal concerns

Slingerlands, N.Y. - Plug's new Vista Technology Park has state-of-the art safety controls to minimize and reduce risk in operations. The teams collaborated using lean methodology to add automation and continuous improvement to the manufacturing processes.

U.S. & Canada – Development of an EHS contractor safety program to support the Energy Solutions division and H2 projects allows us to set expectations and have clear roles, responsibilities and programs

defined to meet or exceed compliance where contractors are utilized on our projects.

Plug technicians provide support at customer locations around the world, and just as we would expect our third party employees to demonstrate safe work practices and maintain a safe environment, we too hold ourselves to those standards while working at customer locations. In 2022, our technicians were in 709 total sites connected across two safety qualification platforms in the U.S., Canada and E.U. which allows Plug to do business at our customer locations around the world demonstrating compliance to EHS customer requirements.

Europe

Netherlands - In late 2021 Plug acquired Frames Group based out of the Netherlands (now Plug Safety Services (PSS)). Coming from the oil and gas industry, PSS has in place ISO 9001, 14001 and 45001 certifications. Their process safety and engineering track record have allowed Plug to develop electrolysis within the E.U. meeting all stringent requirements. As such this will enhance our philosophies of:

Keeping our employees safe: Offer a well-managed safe workplace playbook with current procedures to ensure workplace health and safety, productivity and efficiency.

Continued improvement in building a resilient organization: Continually develop and communicate processes to adapt and respond to evolving safe working requirements.

- **Avoid costly shutdowns:** Minimize the potential for employees to transmit illnesses leading to an operational shutdown with well documented and auditable procedures.
- **Drive operational excellence:** Easily create and implement operating procedure changes to continually improve workplace performance.

Global

This year, a minimum Personal Protective Equipment (PPE) Policy was communicated to all Plug employees for consistency amongst facilities.

An EHS software management system was selected and deployed globally that is used to report, notify and track incident investigations including near misses. We require employees to report any safety events, whether there is an actual injury or a near-

miss, to their supervisor immediately and conduct an investigation. We analyze each event to identify root causes and take necessary corrective measures so that we may learn from the incident and prevent similar occurrences in the future. This is all done through the EHS software management system which includes past due corrective action escalation to leaders. Also included in this tool are inspections, hazard identification, behavior observations, job safety analysis and trending reports.

A global database of all Plug locations worldwide has been established which allows us to create a risk profile based on processes, permits, emerging regulations and compliance reporting. Having this accurate data provides EHS and other decision-makers the ability to determine resources needed to manage risk and ensure compliance to the company.

A global project was initiated to select a qualified vendor to develop Plug Power-branded safety data sheets (SDS) for our products that are manufactured and shipped worldwide. As countries adopt the Globally Harmonized System (GHS) or revise their SDS or label requirements, standard templates are revised accordingly, and documents are based on the revised standard document template for that country. This project considers all countries and

languages where we do business or have the need to create documents for our products. Experts in country-specific regulations, shipping and labeling classifications are part of the team to help support the creation of a safety data sheet. A few examples of the types of SDSs created are "Hydrogen – compressed gas," "Hydrogen – refrigerated liquid," "MEA- Fuel Cell (membrane electrode assembly" and "MEA – Electrolyzer."

The purchase of a learning management system with a suite of 400+ EHS courses, has allowed for a one-stop location where employees can access all available environmental, health, and safety training in a multitude of languages. Translated materials have helped drive a better understanding of the materials and improved the quality of data accrued from non-English speaking locations. Training that is both general and tailored to each employee category is distributed through Workday Learning. Workday Learning is a centralized system that hosts virtual learning programs and allows Plug HR and employees to view completed and outstanding requirements. Our EHS team oversees this program at a high-level and meets monthly while site-specific safety committees, composed of employees from a mix of employee categories and business divisions, ensure requirements are met at each of our facilities.



Education & Training



Education and Training

Education and training are key to the skills development of our employees. We remain committed to delivering practical, accurate, and job-specific education. In January of 2021, we implemented the Workday Learning system and we continue to leverage this tool to deliver a variety of training to our employees.

In 2022, we were able to provide in-person training for all of our manufacturing leaders. Leaders were invited to visit our Latham headquarters, and spent time on a variety of topics such as HR compliance, Plug Values, Change Management and more. All frontline leaders were then enrolled in a three-course live virtual program to continue their learning.

We expanded our leader development offerings to include live, online cohort-based learning to reach our employees globally. We focused 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 100 front-line and mid-level leaders complete four-course programs focusing on topics such as change, feedback, coaching, and high trust relationships. Participants are encouraged to continue their learning journey 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.

All employees have the opportunity to leverage LinkedIn Learning for professional skill development. Many employees used LinkedIn Learning from a micro learning perspective – short, bite-sized learning for topics relevant to an immediate or long-term opportunity area. In 2022, Plug employees had more than 55,000 video completions.

We expanded 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, as well as in Field Service, Energy Solutions, and other areas of the business.

In 2022, Plug attracted 48 students from universities across the USA to support various projects at multiple Plug locations. 92% of our interns rated their overall experience 4+ out of 5. 100% of interns indicated they would work for Plug again, and 100% would recommend Plug to their peers.

Current Internship and Co-Op Programs Include

Summer Internship Program: This is a 10- to 12-week intensive experience held over the summer months, 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-Ops

Co-Op students are fundamentally different from interns. While an internship is essentially a paid job that a student completes in the summer or winter break, a Co-Op is a key component of a student's educational program. These are experiences that their university deems mandatory and requires them to complete for anywhere from 4 to 12 months.

Senior Student Projects

Senior Student Projects expose students to a real-world industry problem over the course of a semester or two, and the research is conducted on the College/University campus.

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. Our internal Step Pay program provides field service technicians – currently 421 – an outlined career path of training and eight separate levels to grow their skills and compensation simultaneously.

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 recurring and new philanthropy initiatives. We are immensely proud of our significant partnership with the United Way, which aims to advance the common good in communities across the world. This partnership facilitates direct employee donations and contributes to United Way's four pillars of supporting communities:

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

We are excited to report that \$70,793.16 was donated by Plug employees in the 2022 program year with a total of 112 pledges. We are a company that values our close relationship with the local communities where we operate.

At a smaller scale, yet meaningful initiative, is our annual donation of turkeys for the Thanksgiving holiday. In 2022, we provided 540 turkeys to Latham employees, 250 turkeys to Rochester employees, 260 turkeys to the Latham food bank, 40 turkeys to the Albany area Rotterdam Elks' food basket distribution event, 12 turkeys donated to the East Rochester Community Resource Center Inc., 10 turkeys to the

Adlai E. Stevenson School 29, and 10 turkeys to the AMDA School 12 (Rochester City schools).

We appreciate the opportunity to come together and give back to our local community in Latham and Rochester. This year, we initiated a Community Relations Program to evaluate deserving nonprofit organizations 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 and align with our values of collaboration, communication, respect, truth, and humility with gusto. Each Plug employee is provided 16 hours per year paid time off to volunteer.

Also, the COVID-19 program continues to track and trace exposures and illnesses to help minimize the spread of illness and the negative impact the virus has on our business.

Location	Volunteering	Donations
Concord, MA	Four people donated blood in November 2022 at the American Red Cross blood drive.	About a dozen bags of non-perishable food were donated to the Open Table at Thanksgiving 30 people received gifts from the Giving Tree for Christmas \$2,500 donated to the West Concord Cultural District , which - - is intended to heighten public awareness of the unique cultural features and resources
Rochester, NY	Factory tour – 33 people from the Victor Robotics Team and 16 people from the Honeoye Falls Robotics team toured the Innovation Center and Gigafactory Plug's engineering team provided feedback to the student presentations 23 employees volunteered at Camp Good Days in May 2022 and seven employees volunteered in November 2022	Six employees donated blood at the John Street Business Challenge through American Red Cross in July 2022 13 employees participated in the Scramble Golf Tournament (Donation to Willie Bee Foundation) in October 2022 30 gifts (three families) were donated to the Willow Center in December 2022 Foodlink Food Drive (401 lbs. of canned and dried food and 10 turkeys donated) in November 2022
Latham, NY		\$10,000 donated to the United Way Summer Meals Program
Spokane, WA	Donated clothing to Spokane Valley Partners https://www.svpart.org/ in December 2022 Donated 55 gallon barrels of food to the Spokane Valley Partners in December 2022	



Appendix



Appendix

Governance Policies-Business Ethics & Compliance

Conflict Minerals Policy

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 reports on its compliance with the Conflict Minerals Rule on an annual basis. In accordance with the Conflict Minerals Policy, Plug's Supply Chain Team engages in a country of origin 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 must solicit that information from their next tier of suppliers. Plug Power will seek information from its suppliers throughout its global supply chains, regardless of where the components and materials are purchased. We work with our suppliers to ensure consistency in the tools used to establish this process.

As a result of these efforts, Plug requires our 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 Conflict Minerals Reporting Template (CMRT, produced by the CFSI*) tool for any materials, components or

products supplied to Plug Power after January 1, 2019 by returning 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.

- Maintain compliance annually.

Audit and Ongoing Due Diligence Process: Materials collected from suppliers are reviewed in an audit related to ongoing due diligence. The framework for this audit can be found in the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. We implement action plans to provide further information and guidance as needed to address concerns revealed as the result of an audit.

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

Plug's Fair Treatment Policy reflects our company's HR and human rights commitments. The policy highlights our social responsibility expectations from business partners. Business partners include suppliers and suppliers' manufacturing facilities, including all subcontracting, packaging, and distribution facilities. The Fair Treatment Policy 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 practice 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. Therefore, Plug's policy 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 International Bill of Human Rights (including the Universal Declaration of Human Rights) and the Fundamental International Labor Organization's Declaration on Fundamental Principles and Rights at Work, among others, and defines a minimum standard across all of our operations. However, where applicable law or regulations require a higher standard or are inconsistent with this policy, the applicable law or regulations will govern. All employees and third-party business partners through whom we conduct business are required to cooperate fully, accurately, and promptly. See the Responsible Supply Chain section of this report for further details on how our International Human Rights Policy relates to our Supplier Code of Conduct. Furthermore, among other things, the 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 will not engage in, support, or condone any form of forced, bonded, or compulsory labor. 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 making decisions on our locations of operations; Plug integrates human rights criteria into the screening of 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 them, annually. Further, our mandated trainings include modules on vigilance with regards 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 and are incorporated in our criteria used by the EcoVadis software.

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 in a transparent manner. 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 the 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, Plug requests our suppliers adhere to this Supplier Code of Code which provides guidance for doing business with Plug. 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 set forth in local laws, to associate freely, join or not join labor unions or workers' councils and to 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 which 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: Suppliers are expected to monitor compliance with this Supplier Code. Plug reserves the right to assess suppliers. Compliance with this Supplier Code 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 also decreases 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 a calculation foundation to use going forward. Additionally, we are evaluating technology enhancements which will allow us to reduce reliance on manual processes in emissions calculations.	Medium

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 \$3/ kilogram of green 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 green hydrogen we are able to produce and ultimately impact revenue.	We actively advocate for and help draft legislation in favor of green hydrogen legislation. 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 consulting 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, 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 green hydrogen	The widespread transition from traditional fossil fuels or lithium batteries to green 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 green 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 production of hydrogen. Iridium, for example, is a rare metal, and with increasing demand for green 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
	Increase cost of renewable energy implementation	As more companies set net zero targets, 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 (v)PPAs 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 below.	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 green hydrogen production, there is a risk that the market demand for green hydrogen will be too great for us to maintain production and inventory. Our production goal is to produce 500 tons of green hydrogen a day by 2025, and 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 green 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
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 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
Transition 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 green 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 green 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, contrasting competitors in the other energy sectors who would take 4-6 weeks for the same problem. 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 preventive 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 green 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 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 client, we will shift distribution focus to make sure the client is full on green hydrogen to maintain operations post weather event.	

TCFD Risk	Plug Risk	Impact	Mitigation Strategies	Time Horizon
Transition 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 green 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 green 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 own water treatment plants to utilize recycled water in California for green hydrogen production. In addition, 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 green hydrogen. These supply change obstacles can result in green 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 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 green hydrogen. These supply change obstacles can result in green 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 defined time frame.	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 green hydrogen fuel cell trucks for green 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, ultimately lowering operational costs.	Medium
Use of more efficient production and distribution processes	Develop ways of creating green 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. This will make our products more affordable, attracting more consumers and becoming a more popular energy source, increasing 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 should 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. Continuing to take advantage of this opportunity will allow us to continue to grow.	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. This freedom may allow us to produce large quantities of green hydrogen at reduced costs (pending a cost-benefit analysis which should be performed), creating lower operational costs and higher profits.	Medium

TCFD Opportunity	Plug Opportunity	Impact	Time Horizon
Product 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. Continuing to take advantage of this opportunity will allow us to continue to expand our business.	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. Continuing to take advantage of this opportunity will allow us to continue to expand our business.	Medium
Shift in consumer preferences	Consumer demand for green hydrogen increases due to preference for clean energy, high fuel/ non-renewable energy prices, and government incentives	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. This trend will 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), making 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 green hydrogen production and consumption	See the opportunity "Use of supportive policy incentives"	Medium
TCFD Opportunity	Plug Opportunity	Impact	Time Horizon
Resilience			
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 the opportunity "Shift toward decentralized energy generation"	Medium
Resource substitutes/ diversification	Develop alternative ways to produce green 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 green hydrogen will decrease possible price increases that would prohibit large quantities and infrastructure of green hydrogen production. In addition, moving away from reliance on others for raw and produced goods, we can continue to operate and produce green hydrogen in the event of a global trading shutdown or an import embargo.	Long



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